# COTTON

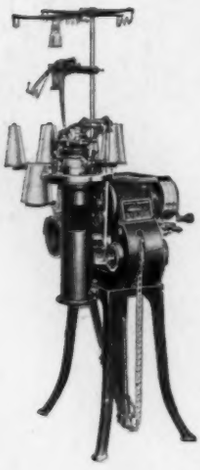
Volume LXXX
Number Eight
Ten Cents a Copy

JUNE, 1916

Published Monthly by
W. R. C. Smith Publishing Co.
Dalton, and Atlanta, Ga.

We Can Show You
That Our

Knitting Machines



FOR

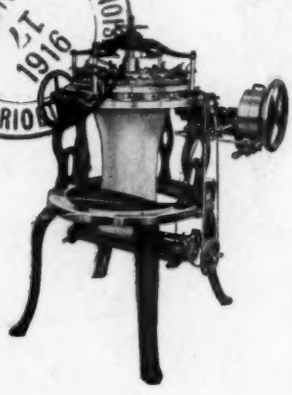
Hosiery & Underwear

will give you

HIGHER QUALITY
MERCHANDISE

GREATER PRODUCTION

LOWER COST



ESTABLISHED 1865

Scott & Williams

INCORPORATED

88 Pearl St.
BOSTON

366 BROADWAY
NEW YORK

5 BLANDINA ST.
UTICA

SUN LIFE BUILDING
HAMILTON, ONT.

LIBRARY OF CONGRESS
JUN 17 1916
PERIOD

Alphabetical Index to Advertisers, page 172. Table of Contents, page 35. Classified Index to Advertisers, page 173

# THE BEST NORTHROP LOOM

TRADE-MARK REGISTERED

## BOBBINS

AND

## SHUTTLES

ARE MADE BY

## NORTHROP LOOM

## MANUFACTURERS

LOOK FOR OUR NAME
ON YOUR

## Bobbins and Shuttles

# Draper Company

Hopedale Mass.

J. D. CLOUDMAN SOUTHERN AGENT

188 South Forsyth Street ATLANTA GA.

JUN 16 1916



CLB362160

# COTTON

Published Monthly by

**W. R. C. Smith Publishing Co., Dalton and Atlanta, Ga.**

**L. L. ARNOLD, Editor.**

Editorial and Advertising Departments Grant Building, Atlanta, Ga. Subscription price, $1.00 for two years; Canada, $1.00 a year; Foreign, $1.50 a year. Entered at the Dalton, Ga., postoffice as second-class matter.

Contributions to the columns of Cotton are solicited and paid for after publication. The names of contributors need not necessarily be used, but must accompany all manuscripts.

Orders for any change in advertising must reach Atlanta previous to the 10th of the month preceding month of issue, otherwise publishers cannot be responsible for changes.

When changing address, *notify us*, not the postmaster. Always give the old address as well as the new one.

Copyright, 1916. W. R. C. Smith Publishing Co.

**Volume 80.** **Member Audit Bureau of Circulation.** **Number 8.**

## CONTENTS

EDITORIAL—

Are We Becoming Money Mad? ..... 373
Habits ..... 374
Textile Accounting by Machine ..... 374

GENERAL—

National Association of Cotton Manufacturers Convene in Boston ..... 375
President's Address ..... 375
Foreign Commerce in American Textiles ..... 378
Some Glimpses of the Boston Textile Show ..... 383
Southern Mill Situation ..... 402
New England Mill Situation ..... 404
Cotton Comment ..... 405
The Yarn Market ..... 406
Does the Comber Remove Short Fibres ..... 407
The Indigo Phase of the Dyestuff Situation ..... 410
Reconstruction in Dyeing ..... 412
Notes About Men You Know ..... 416
The Relation of Overseer to Employee ..... 421
Reputations and Hosiery Yarn ..... 422
Management ..... 423
Spinning Room Waste ..... 424

KNITTING SECTION—

Twelfth Annual Knit Goods Convention ..... 427
President's Address ..... 428
The Manufacturer ..... 430
Preparedness ..... 432
Among the Exhibits ..... 434
The Knit Goods Market ..... 446
Among the Knitting Mills ..... 448

# SCOTT TESTERS

Motor Driven Single Strand Tester.

**ARE BUILT TO U. S. STANDARDS TO MEET AMERICAN REQUIREMENTS.**

**Our Stock Machines Include**

4 sizes Hand Yarn Testers
4 " Hand Cloth Testers
3 " Auto. Power Yarn Testers
4 " Auto. Power Cloth Testers
6 " Combination Yarn and Cloth Testers
6 " Universal Testers
3 " Hand Single Strand Testers
2 " Plunger Release Single Strand Testers
3 " Motor Driven Single Strand Testers
3 " Rubber Testers
6 " Rubber and Fabric Testers
3 " Tire Fabric Testers

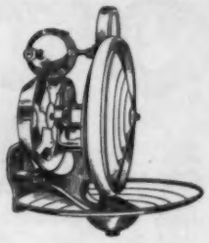
**Twist Counters, Swifts, Roving Reels, Yarn Inspectors, Yarn Reels, Scales, etc.**

WRITE FOR NEW CATALOG.

## Henry L. Scott & Co.

Established 1899.
PROVIDENCE, R. I., U. S. A.

***No Jet or Pressure Pump System to this Humidifier***



Each head is a complete humidifying system within itself. Ordinary water pressure is used. The strong fan carries the moisture to every part of the room, insuring uniform humidity.

## NORMALAIR HUMIDIFIERS

eliminate the dead air spaces. Each head has its own absolute control, and is guaranteed accurate.

Write for Catalog "C."

**Normalair Co., - - Winston-Salem, N. C.**

New York
302 Broadway.

Charlotte
Independence Bldg.

**SUCCESSFUL SOUTHERN BOBBIN MAKERS**

**JORDAN MFG. CO., Monticello, Ga.**

## Allen Safety Set Screws

Any length, point or thread. We make a specialty of short lengths.

**Allen Socket Cap Screws**

are very neat in appearance and exceedingly strong.

Send for Circular No. 21 and free sample for testing.

**THE ALLEN MFG. CO., Hartford, Conn.**

Peoples Life Bldg., Chicago, Ill.
173 Princess St., Manchester, England.

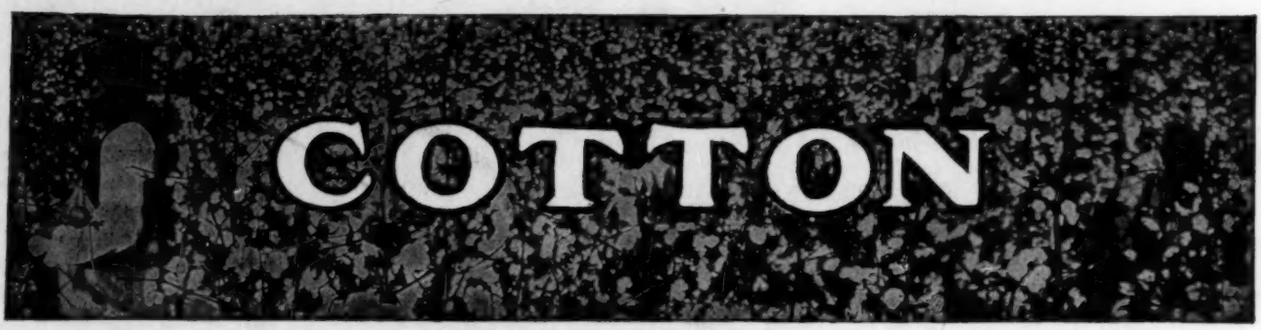
*Our Seasoned Rawhide Loom Pickers Can Be Shipped Promptly*

We make to order but a very small part of the rawhide loom pickers which we send out as our stock of finished pickers is so large and complete that we are able to **fill orders for most pickers as soon as received.** This not only insures prompt delivery but also well seasoned pickers and therefore pickers which wear longer.

*We Want Your Rush Orders*

**GARLAND MFG. CO.**
**SACO, MAINE**
Formerly Loom Picker Co. : : : Biddeford, Maine

G TRADE MARK




**June, Nineteen-Sixteen.**

## Are We Becoming Money Mad?

Observations of conditions, actions and opinions during the past few months have crystalized this question.

Wherever we look, to whatever industry we turn, regardless of class or position, the cropping out of this money mania is apparent.

Discussing the possibility of a big railroad strike that would demoralize the business arteries of the country, and which, if continued over any extended period of time, would be bound to cause great suffering among the urban populations who are dependent upon these arteries for sustenance, a prominent operator in lumber and shipping circles said, "There will be no such strike. We can't afford it." The viewpoint of capital—money.

A railroad man, a member of one of the "brotherhoods," in reviewing this same possibility, declared that now was the accepted time; that the roads were "loaded to the guards" with business and would have to give in. "We are going to smash our way through," he said. Remember, this is the attitude of a class of men whose wages average $1800 a year. They desire an eight-hour day and extra pay for overtime work. More pay for less work. The viewpoint of labor—money.

The city employees of Providence, R. I., in the division of street maintenance, struck for 25 cents a day raise in pay and Saturday half holidays with pay. They won.

Textile operatives in Fall River, Mass., threatened to strike and asked for a ten per cent increase in wages. They got it.

Some other textile mills in New England have voluntarily increased wages twice within a year.

In Worcester, Mass., a part of the machinists at the Crompton & Knowles plant struck. In the same city the Norton Company are having difficulties of a similar nature among a section of their employees.

At the time this is written there is a garment workers' strike in New York, labor difficulties in Lawrence, Mass., and the workmen out on strike at a finishing plant in Providence, R. I.

These are but a few of many similar difficulties that encumber the columns and blacken the headlines of the daily papers. They are largely confined to the northeastern and north-central sections of the country. Those sections, mind you, which are known as the "money sections" of this great country. Those sections not only contain enormous amounts of money invested in industrial plants, but they also point with pride to the overwhelming total of their savings bank balances. The people of those sections are collectively rich and individually in a much better financial condition than the average for the whole country—yet they strike for more money.

A Providence manufacturer wished to hire a boy for his shipping department. He went to the Y. M. C. A., was referred to a boy and the boy engaged. The next day the boy failed to appear, and inquiry developed the fact that another manufacturer made a higher bid.

This illustrates the abnormality of the present business situation. A boy commands a wage that but a short time ago was a man's wage; a man commands a wage much greater in proportion—yet both are dissatisfied. The waiter who was once satisfied with a tip of 15 cents now sulks unless he gets a quarter. The bell boys and even the elevator boys of the metropolitan hotels expect to receive extra compensation for doing their duty; for doing what they are paid to do.

These are but examples that are typical of the whole people. We are all tarred with the same brush.

Billy Sunday is working for the uplift of mankind, but please contribute generously when the box comes around because Billy has a big house and a lot of servants and the cost of living is going up. A capitalist was approached on the subject of investing some money in a manufacturing enterprise. He was shown a moderate but a certain profit on his investment. He declined. It is no trouble to make money nowadays, he said; the only question is where to place your money to get the largest return.

There is the same story. Bankers and shipping clerks, preachers and waiters, factory owners and factory operatives, Capital and Labor are all striving to make money, more money, the most money.

Where will it all end?

What will happen when this abnormal demand for manufactured materials and for the labor they contain, shall cease?

Will the workman be willing to return to the old wages and the former hours of labor?

Will he appreciate the economic situation or will he resort to his fair-weather methods and strike?

If the wages and hours of an abnormal period are to prevail in normal times, who is to pay the cost and what will be that cost?

These are questions that are worthy of the careful consideration of every man, regardless of his position in life. It matters not how the individual earns his competence, if the abnormal production costs of the present are to be continued in normal periods, every producer will have to bear his pro rata share of the burden. If this condition prevails we will be living in a period of inflated

payrolls, but with the normal value of the money unit, the dollar, depreciated insofar as its purchasing power is concerned.

The one big vital result to this country arising from such a condition will be the practical exclusion of the manufactured products of this country from the markets of the world, because of the inability of our manufacturers to sell in competition with the manufacturers of other countries, and the absolute necessity for a high protective tariff on all manufactured goods to enable American manufacturers to compete in our own markets.

Labor must not draw a false conclusion from the present abnormal period. It cannot receive high wages for work performed unless it, in turn, expends a greater proportion of these wages for the labor contained in the articles it purchases.

We American people cannot hope to lift ourselves by our boot straps.

## Habits.

Habit is very much like matrimony, except that it is easier to get into and harder to get out of.

It frequently takes a year to wed one's affinity, but only a few months at Reno to untie the knot.

On the other hand, only two minutes are necessary to acquire a habit from which one may not be divorced in a lifetime.

When you were two months of age, and still a presidential possibility, perhaps upon a time a doting father, jiggled you to sleep on his knee, and thereafter, you demanded it each night, with vocal vociferousness and redness of face. You were born with habit forming proclivities; we all were.

Providentially, however, all habits are not bad, and the good ones in some people, balance the bad ones in others, for a more particular description of which theory, (as the lawyers would express it) reference is hereby made to the late Mr. Emerson's essay on compensation.

The mistake most people make is in going no further than the avoidance of bad habits.

The fellow who thinks he is a high class citizen, because he allows himself only three cigars a day, and is sober enough at 11 p. m. to say "She Sells Sea Shells" should take another inventory of himself. These things alone do not constitute virtue. Fear of indigestion or the wrath of his spouse might keep him that straight.

This man should ask himself whether or not he arises early in the morning, gets to his office on time, makes it a practice to smile at every one he meets and speaks courteously over the telephone. These are good habits and become second nature, just as do the bad ones.

If you are not this fellow—if you are habitually behind time, late with your appointments, slovenly with your desk, grouchy over the 'phone and behind with your work, neither brains nor family name will win for you success.

You might be a second Solomon and your family might boast a coat of arms, but the laws of compensation will surely pull your average down to the level of mediocrity. Some ordinary country boy, with good habits, will pass you at the first blind siding.—*The Right Way.*

## Textile Accounting by Machine.

The accounting in the office of an average textile plant contains, besides a volume of auditing and checking, some very interesting original calculations. Absolute accuracy is of course essential in all this work, and in some instances certain problems must be figured within a limited period of time. For instance, cloth construction and the cost of making up various goods or yarns, with reference to the prevailing but ever fluctuating prices of raw materials, must frequently be determined upon short notice in order to serve as a basis for telegraphic quotations, or to complete sales which usually run into thousands of dollars.

With possibly one or two exceptions, the remaining accounting problems may be handled in the regular office routine way. These consist principally of figuring invoices, interest, discounts, cost sheets, pay-rolls, sales sheets, average due date, checking, etc., and in nearly every mill the same problems and methods of handling them will be found to be similar if not identical. Probably the most irksome of the various calculations is that of figuring weekly or bi-monthly pay-rolls, with the periodical cost sheet a close second.

The weekly pay-roll of the average textile plant contains several hundred names, some employees being paid on a basis of two or three rates. While the calculations as a rule are not so large, each involves a cross-addition of the hours or pieces, usually from one to three multiplications of the total by the several rates, then generally one to three deductions for "rent," "cash advances," "store account," etc., before the net balance due the employee is determined. Each of these items must of course appear on the pay-roll sheet and accuracy is of primary importance. Speed is also very essential.

The monthly (or weekly) cost sheets contain one or more "productions" in pounds of cloth or yarns manufactured during a given period. These items of "production" must each be divided into the cost of operating the various departments which have entered into their manufacture, even including "supplies," "salaries of executives," etc., and the "cost per pound" obtained to 6 or 8 decimal places. To do this without the aid of a suitable machine is quite an undertaking and is a severe mental tax upon the accountant. In cost work, as in pay-rolls, accuracy is absolutely essential since cost statistics are worthless unless they represent true conditions. It is an established fact that errors made in figuring cost mentally will be found in a majority of cases between the 4th and 8th digits at the right of the decimal point, yet it is in these particular digits that accuracy must be obtained because the variations in cost between any two periods is usually of such character as to be apparent only beyond the 3rd decimal place.

Invoices of "goods mills" generally contain fractional yardage and almost always fractional price. From the invoice total must be deducted one or two discounts, representing commission of Selling Agents and discounts for "seconds" or other grades, and finally a freight allowance. Yarn mills do not have to contend with fractional items in invoicing except as to price, but on the other hand they frequently have as many as three discounts to deduct instead of one or two.

During auditing periods, twice a year, and in taking

*(Continued on page 422.)*

# National Association of Cotton Manufacturers Convene in Boston.

The one hundredth meeting of the National Association of Cotton manufacturers was held in Boston at the Copley-Plaza Hotel on April 26th and 27th. Occurring in the same week with the Fifth National Textile Exhibition, the sessions were attended not only by the Northern mill men, but many guests from the South were also present.

While the weather was raw and threatening on Wednesday morning, by the time the meeting opened it was comparatively clear and nearly 200 members and guests were assembled when President Albert Greene Duncan called

**The First Session**

to order. The reports of the secretary, treasurer and auditor were read, and then Chairman E. H. Baker announced the award of the association medal to Dr. N. A. Cobb. Immediately following this President Duncan voiced a strain of pure patriotism in his delivery of the

**President's Address,**

which follows in full:

At the time of our meeting two years ago—in April, 1914—no one would have ventured to predict that a catastrophe was overhanging the world. Humanitarian, economic and financial considerations would then have been advanced, showing that a world war was impossible. The outbreak in the Balkans seemingly settled, the nations of Europe, after a period of strain and tension, had resumed their normal course of life.

A few short months followed, and prosperous and happy Belgium was a scene of desolation and slaughter. France, startled from her thrifty pursuit of industry and commerce, became a prey to terror and almost disaster. Russia's vast population and most stupendous national resources formed no defence from an invader who drove her back from her borders amid the ruin and destruction of her fairest provinces. England, supposedly secure in her isolation, seeing her dominance of the seas and her colonial empire threatened, was forced to take a leading part in a contest she could not avert.

Lack of adequate preparation for emergencies, far from keeping these nations out of a struggle which many of them were loath to enter, made early results most disastrous. As a sequence of this world war, we have seen the blasting of Servia and Montenegro, the murder of hundreds of thousands of Armenians, and the blotting out of Galicia and East Prussia, with terrific sufferings to civilian populations who had no part or in many cases no knowledge of the struggle.

How foolish, in view of these awful events, is the self-sufficient attitude of America. The early days of the war threatened the breaking down of our financial structure. Curtailment of our trade followed, caused by the withdrawal of foreign vessels whose place our insignificant merchant marine could not supply. We suffered a personal loss, as well as in our dignity as a nation, by the murder of our fellow-citizens on the Lusitania. As the grip of the warring nations upon each other has become more tenacious, we are feeling the restrictions of our shipments to neutral nations, and our utter inability to secure many raw materials and products needed by our manufacturers. Yet at this day, nearly two years after the outbreak of the war, we are still discussing academically the question of the possibility of our being involved, the extent of our needed preparedness, or even the necessity of any preparation.

To anyone who will calmly view the history of the past two years, the plain lesson is evident, that civilization is but a thin veneer over the inherent savagery of mankind; that neutral rights or the rights of civilians have but little weight when national policies are at stake, whether these policies be for aggrandizement or self-preservation. To the citizens of this country, it should be clear that a nation that intends to preserve its national life and national ideals inviolate must make adequate preparation for its own de-

RETIRING PRESIDENT ALBERT GREENE DUNCAN.

fence against any emergency, no matter how unexpected, or against any attack, no matter how unjust and at variance with every policy it has hitherto professed.

This lesson is particularly pertinent to America at the present time, for both our business and foreign policies inevitably tend to make us enemies rather than friends among the nations of the world. Our foreign commerce is openly seeking to capture neutral markets from those who formerly held them and are prevented from trade owing to exigencies of war. Our necessary policy of neutrality is bound to be misunderstood, and to antagonize both parties in the struggle. Further than all, by our prosperity, in that we seem to profit from the misfortunes of other nations, we invite the envy, the cupidity and the hatred of all.

This is not the time to discuss in detail the question of preparedness. In principle it would seem as if all Americans should agree upon the necessity of national defence, but, complicated as this policy is by questions affecting the

various parts of our country in a different way, it seems desirable to avoid the details of preparedness and discuss the fundamental ideas which must lie behind any national policy, whether of defence or of any other problem affecting our national life.

A strong national spirit, inspired by a love of country and animated by the ideals that have made our country what it is, must develop a broad outlook with which national problems must be faced. Vaporings of patriotism, jingo enthusiasm, pointing to our vast national resources and the willingness of millions of Americans to spring to their country's defense, calling attention in loud tones to our ability in the past to respond admirably to every national need, will not suffice. A calm, sober realization of what our country means to us is needed. A decision as to the lengths we are individually prepared to go, in deed as well as in word, is demanded if we would make our country the greatest, the readiest, and the sanest country, amid the warlike extravagances dominating the rest of the world.

What does America stand for? We believe it unique among the nations of the earth. It was founded on liberty, dedicated to the rights of man, and pledged to the principles of humanity. Read the Preamble to our Constitution, the Farewell Address of Washington, and the Gettysburg Speech of Lincoln,—three great documents that embody our national ideal. What has America done to justify these expressions, and in what degree has accomplishment squared to the hopes of our founders?

We were the first nation in the world to develop universal education as a training for manhood suffrage. Coincident with the settlement of our vast area came the planting of the school and the college for the training of our citizens. We have, in general, abandoned all question of property qualifications and have based the right of citizenship only on allegiance to our country and an understanding of the principles of our government.

We have ever held to the doctrine of the greatest good to the greatest number consistent with the rights of all, and in spite of demagogues' vaporings on special privilege, one who follows the tendencies of legislation in this country must see as its underlying motive the uplifting and improvement of the average man. We have built new communities of self-governing citizens, trusting to them the regulation of their local affairs with the only limitation that their laws and court decisions should conform to the Constitution of our common country. We have done this while opening our doors to the immigration of the world, and have not feared the issue.

We have not selfishly held our territory to ourselves, but trusted to the ideals of the republic to mold the newcomers of every race and nation into real American citizens. In spite of all that has been said in the last few months against the attitude of certain hyphenated Americans, we have but to point to whole communities which, in recent times, as periods run in the life of a nation, have been settled largely by races and peoples entirely alien to our own, but who, by the influence of the common school and the insipration which a free national life has given, have become as loyal Americans as any who can trace descent from the founders of our country.

By the blood and suffering of the great Civil War, the question of our nation being an indivisible union, rather than a loose confederacy of states, was settled forever, and our welding together as citizens of a common nation marked the beginning of the era of greatest prosperity to all sections in development of resources and population.

As a united nation, we undertook, for humanity's sake alone, the rescuing of Cuba from plunder and spoliation, without any thought of material benefit or territorial aggrandizement, and when, in the course of our struggle with Spain, the Philippine Islands were thrown as helpless wards upon our hands, we extended to them, and to the islands of the Pacific, our ideals of education, self-government and liberty, and from us these peoples have experienced the only real peace and security they have ever known.

America is founded upon ideals and has lived because of them. It stands for something more than the material prosperity of its citizens. Its success as a nation is measured by something else than the yield of its factories, its mines, and its acres, or the per capita wealth of its inhabitants. Its national ideal cannot be expressed by columns of figures. America stands for something higher than cotton or iron or international trade. The people of this country achieved liberty before they acquired wealth, they established justice and the rule of law, because they believed these to be the foundation of good government, and not mere expressions of expediency.

As citizens of the first and the greatest republic in the world, we do not realize our unique position. We do not fully appreciate that citizenship carries with it a higher degree of personal responsibility in a republic than in any nation under any other form of government. The success or failure of a republic depends upon the individual citizen, for with an ever changing personnel in government no continuity of policy is possible unless demanded by the electorate.

The chief peril of democracy is its unadaptability for unified thought, and far less for unified action. The public often think they see the truth and act from sincere conviction, but many times without knowledge or understanding of fundamental facts. It is therefore essential that the ideals of our republic be kept alive by every citizen as a rallying point for national unity and action, for it is only by the inspiration of a national ideal that the divergent forces in a republic can be focused for the common good.

As the panorama of the world's history passes before our eyes, we see that it has not been wealth, nor commerce, nor learning, nor military power, nor any of the other attributes which could be particularly applied to any of the great nations of the earth, past or present, that has kept them strong. Trade routes and material advantages may have helped these nations at their origin, but the reason for their continued predominance and success has been their adherence to a strong and worthy national ideal, and when this has gone, decay and disintegration have followed with rapid strides.

A republic having no trappings of sovereignty must hold high principle alone as the rallying-point for a strong national spirit. We are not an empire or a kingdom, and cannot draw from an hereditary monarchy inspiration that really flows from national spirit. The constitutional monarchy of England, whose citizens are as free as our own, have in the person of their king the embodiment of their national ideal and of their history, which leads the mind of each citizen back even to medieval times, and in giving allegiance to the office of kingship, not to the person alone

who fills the throne, their thoughts unconsciously crystallize on all that their nation has stood for during the centuries of its history. The citizens of Russia in revering their Czar do not regard him as a personality, but as the "Little Father" of his people, and the embodiment not only of their national existence, but as the head of their organized religious belief. Germany, not a nation before 1870, welded by the personality of a Bismarck which unified many discordant states of differing race and religion, has become a fatherland to a people who see in the empire the embodiment of the national ideal. France, though a republic, is the successor to an empire and a kingdom, and has drawn into her present form of government much of the inspiration and unifying force with which she followed the imperial eagles over Europe.

No better example of this national spirit can be given than by an incident at the close of the Franco-Prussian War, when France saw herself with a large part of her territory held by an invader, her Emperor a captive, her capital in the hands of the Commune, and her whole system of government broken. Marshal Bazaine, the commander of the fortress of Metz, surrendered without adequate resistance, and on the restoration of a stable government was court-martialed to answer to the manner in which he had fulfilled his trust. He pleaded that a large part of the army had been routed and captured, that there was no settled form of government to whom he could appeal for instructions, and he therefore felt that any resistance was unnecessary. As he said, "There was nothing left." The answer of the presiding judge will live in history as an example of how a national ideal can triumph over any catastrophe, however severe. Addressing the accused commander, he said, "But was there not France?" His question was never answered.

A republic whose citizens lose the conception of the nation as an entity and the embodiment of the high ideals and principles for which it stands, will soon sink to a point where expediency will replace national honor. Expediency excites no inspiration and is not a principle on which a nation can live. Expediency dictates the theories of peace at any price. Expediency demands commercial instead of spiritual welfare, and may well cause the breaking up of the very foundations of government itself.

The ideal of a government founded on principle is absolutely at variance to the theory that a state exists solely for the individual, and that the individual has a claim on his state for the protection of his life and property that is not equally balanced by his duty to do his part to keep his nation true to the high principles which were the cause for its foundation, and are the reason for its continued existence. The theory that a government exists merely as an insurer of real estate titles and a protector of material wealth is unutterably opposed to any ideal of nationalism, for such protection could exist with equal security in a vassal state ruled by an alien nation who had no interest but to encourage the tax-paying ability of its inhabitants.

I feel that, in the last few yers, we have failed lamentably in this country to put a strong national feeling as the fundamental basis of our policy of government. Too often have sectional and local considerations been given weight as opposed to a national conception. There has been too much legislation for selfish ends, and too little national legislation for national needs. Our legislators, who are not alone to blame, as they but represent the sentiment of their constituents, have too often devoted their time and attention to the securing of appropriations for local benefits, to legislation to promote the advantage of one section as opposed to another, rather than to adopting a broad, constructive and national policy which should regard all questions in the light of national concern, and not in the sole interest of any one section of our country.

While of necessity our citizens, owing to different local environments, naturally must approach almost any national question from a different point of view, and while there must exist in any free form of government political parties with different ideas of how the nation's affairs should be best administered, he is no true American, whether he be citizen or legislator, who puts personal, sectional or party advantage above national welfare and prosperity.

No better illustration can be given of the failure of our citizens or their legislators to regard our nation's welfare as a whole, than the action of our Congress in the last few months. With wars and rumors of wars all around us, with the realization that, after the present struggle, the world will never be same again, that new alliances will be formed and old ones broken, that the warring nations will of necessity be forced to change their internal economies and their external policies in order to recoup themselves for the enormous expenditures in which they have been involved,—with these facts patent to everyone, there has been no definite, consistent policy to put this country in an adequate state of defence for what may happen at any time, or in a condition of industrial preparedness for the trade war bound to ensue at the close of the struggle. These great questions have been considered purely in the light of local self-interest and party advantage, and not in relation to national welfare.

The war has already shown that, in spite of ample natural resources of our own to supply practically every requirement of our industries, we are dependent on foreign nations for a large number of essential products, notably dyestuffs. Yet, in spite of a clear case being made out by our citizens, irrespective of party, our legislators have let petty politics intervene, rather than regard the needs of their country first and their party afterwards.

With the necessity of large expenditures for preparedness admitted, no definite financial policy of taxation has been advanced, but an eager search has been made for some new form of revenue which will be least antagonistic to the individual voter, with the intent to minimize the opposition of taxpayers by imposing upon the few the largest part of the burden. In any program of such national import, taxation should be borne equally, according to his means, by every citizen, as a part of the responsibility of his citizenship. This clashing of political and personal interest with the interests of the nation as a whole is what is making the administration of our government inefficient and insecure for its citizens

The man who thanked God that a naval gun had not yet been invented which would shoot from the Atlantic seaboard to the Mississippi river was certainly not thinking along national lines, nor was the leader of the dominant party in Congress regarding all sections of the country with equal solicitude and showing a national spirit in tariff legislation when he said, "We in the South intend to make the New England mills come down and put their mills there or

else go out of business." Such sentiments emphasize the fact that citizens of this country often regard sectionalism, individualism and partisanship above nationalism. Such sentiments are at the root of much of the legislation of which business men in the last few years have had reason to complain. We should go back to first principles. We should forget our individual, local and partisan prejudices, and turn our faces towards the ideal of nationalism, which has been our salvation in our government crisis of the past.

We are in the midst of a crisis today, and possibly one of the most far-reaching in its effect upon our national life we have ever faced. In spite of our momentary prosperity, in spite of our isolation from the struggle which is raging over three-quarters of the rest of the globe, we cannot pursue a lofty policy of indifferene and aloofness to the great questions of national and international import which press for settlement. We have been forced, in spite of ourselves, into international relations. To protect our own financial structure, we have recently been obliged, for the first time, to engage in international finance, and such chains of commerce, once forged with other nations, cannot easily be broken. We must realize that we can no longer consider our own country as a law unto itself, but with the dawn of peace must engage in the struggle of nations for world trade. We have formed closer bonds with the nations to the south of us, and the Monroe Doctrine has changed from a measure for our own defence into an added responsibility we cannot shirk.

We can never again avoid world politics, if we would, and in entering this broader field of national opportunity we must firmly hold the principles for which America has always stood;—of peace, "with charity towards all and malice towards none";—of friendliness to all nations;—of insistence upon full protection of American rights;—of determination to defend American independence, American territory, and American ideals;—of the rights of humanity;—of the working out of the problems of democratic government in the Western Hemisphere without outside interference.

This is true Americanism in external relations, a creed to inspire and unite our citizens to the highest endeavor. But we cannot exhibit a national spirit in external relations unless we vitalize in internal affairs the doctrine of "Americans All," not sectionalists, not partisans, when the national needs of business, of defense, of revenue, or of any other problems of country-wide import demand settlement. For the government means the whole people, with every citizen a sovereign whose allegiance can be given only to that which is higher than any embodiment of kingship.—A National Ideal.

The next feature of the program was the reading of the resolutions to the late Dr. Woodbury, which were tendered by the American Association at their recent meeting in Atlanta.

Then came an address on

**Foreign Commerce in American Textiles**

by President Frank A. Vanderlip, of the National City Bank, who spoke in part as follows:

If there ever was a time for conferences, and for the cultivation of a spirit of unity and cooperation among American business men, and all classes of Americans, that time is now. We are not as yet in the war, and we hope that, without sacrifice of honor and self-respect, we may be able to remain out of it, but in no event can we escape the effects of it, and the war is so stupendous an affair in the world that those effects must be very great and far-reaching.

The enormous demands upon our markets, and the abnormal changes in prices, are significant of the violent disturbance in economic processes that is taking place, and the fact that the changes just now are in our favor is not entirely reassuring. It would be worth something again to get back under a rule of order and certainty even though for the moment we are profiting by disorder and confusion.

The war unquestionably opens new opportunities to us. As far as conditions outside of the human element is concerned, we should be in a better competitive position after the war than before. We shall have largely increased our wealth, reduced our indebtedness abroad and perhaps have reversed our position from a debtor to a creditor nation. We shall have much increased our productive capacity in many lines of manufactures. Interest rates are likely to be at least as low in the United States as elsewhere, which has not been the case in the past, and taxes should be lower in view of the fact that the budgets of Europe will be doubled. And, finally, there will be the effect in Europe of the reduction of the working forces by death and disabilities, and the loss of indispensable, highly trained, technical men. These definite factors in the situation seem to favor continued development in this country and an expansion of our trade with other countries.

On the other hand, the human, dynamic, creative elements in the situation will be of more importance in shaping the developments of the future than the factors I have named. Capital can be readily shifted by the transfer of gold. American capital can be employed in Europe as European capital has been employed in the United States. The question will be where can capital be most advantageously employed for world-wide operations? We certainly have a better chance to connect up our industries with world trade and world development than ever before, but the fact that one man has had a better chance than another, or that one nation has had greater natural advantages than another, has never yet determined the result of competitive struggle. We did not sleepily give up the manufacture of cotton cloth to England because she had advantages for it, but instead we have developed methods that have largely offset her advantages.

The vital question is, what effect will the experiences through which they are passing have upon the people of Europe, and what effect will the conditions now prevailing in the United States have upon us? If the experience of Europe gives discipline and mental stimulus to the people, if it awakens new ambition and resolution, and develops a new national spirit of devotion and unity, the debts and taxes will not retard their progress. And on the other hand, if our people do not recognize the temporary character of our present prosperity, conserve its benefits to strengthen us in the future, and adapt ourselves readily to changing conditions, we shall be in a weaker position after the war than we were before, for we shall be upon an artificial level of costs, a level above the rest of the world.

We have to recognize that nature's inclination to preserve the equilibrium is against us. Nature is a great leveler. She is averse to violent changes. She is conservative; in-

deed she is the original reactionary, always swinging from side to side until the balance is restored. She gives her best training under adversity and privation and slyly mixes the germs of weakness and degeneration with prosperity. The changes that she sanctions must be made by slow growth and under the play of all the adverse influences.

We are fortunate in having such a variety of resources that we can have a great trade among ourselves. At this moment the swelling home demand would take almost the entire product of our leading industries. But the broader the base under our industries the more stable they will be, and in many lines we have capacity far beyond our own regular needs. We cannot disconnect ourselves from the rest of the world. We must buy abroad an increasing volume of things that we can never economically produce, we must pay for them in goods, and it should be our ambition to pay for them in finished goods which represent the higher achievements of labor rather than in raw materials.

The cotton goods industry is based upon a raw material of home production, and much the greater part of our huge production of that raw material goes abroad for manufacture. Rapid as has been the growth of cotton manufacturing, particularly in the last fifteen years, the expanding home market has taken about 95 per cent of the goods produced. The total amount of cotton goods exported by all the manufacturing nations in the last year of normal trade, 1913, was approximately $1,250,000,000, of which the United States, producing most of the raw cotton, contributed $54,000,000, or less than 5 per cent, and these are our highest figures for the exports of any one year. Four countries led the United States, to-wit: Great Britain with $618,000,000, Germany with $120,000,000, France with $79,000,000 and Japan with $58,000,000. Switzerland was close to the United States with $50,000,000. After these in order are Italy, $46,000,000; India, $39,000,000; Netherlands, $32,000,000; Austria-Hungary, $27,000,000; Russia, $23,000,000, and Belgium, $20,000,000. None of these, except India and Russia, is a producer of cotton.

In the last year, under the conditions incidental to the war, there was a heavy reduction of importations of cotton goods by nearly all countries. Germany, Austria-Hungary and Belgium were practically out of the export trade, Great Britain's exports fell off one-third, those of France two-thirds and declining trade was the rule. The United States, confining the calculation to piece goods, made a total gain of 11 per cent, which is not large under the circumstances. Great Britain's exports of piece goods to South America in 1915 were about one-half those of 1913, but at that they were $19,000,000, which compares with $3,688,000 from the United States. In the early part of 1915, however, buying was extremely light and we fared better in the latter part of the year, and I understand that in 1916 our sales are making a much better showing.

I would not assume to teach the members of this Association anything about the economics of cloth-making, or to comment upon this apparently meagre showing of exports in a critical spirit. I have already expressed my appreciation of the competitive conditions under which the cotton goods manufacturers of this country have labored. You will understand, however, that as those of us who are actively interested in the effort to build up foreign trade look over the field of possibilities we long for a better showing in cotton goods. It is along the line of normal development that we shall export less of raw cotton and more of cotton goods. We do enough of it to show that it can be done with a margin of profit, and there are, therefore, no insuperable obstacles to our trade growing much larger. It does not grow faster because we do not go after it as hard as we might.

Through the branches which the City Bank has established in Latin-America, we have had opportunity to make a survey of the cotton goods trade. Our people report that American goods stand well as to quality; that where the trade is regularly supplied and the brands are established they can be sold at a profit. Their recommendation is that the trade be cultivated in a cooperative manner, by the formation of a Cotton Goods Export Association representative of the American industry, which will open salesrooms in important centers, make an extensive display of goods, regularly visit the dealers and stay by the enterprise year in and year out as though the trade was as important to you as it is to Lancashire.

You will pardon me if in my zeal for this general cause of building up American exports I urge that such a proposal should not be judged solely upon the prospect for immediate individual profit. This is a matter of national concern. It appeals to patriotic motives. The country looks to the managers of its great industries to be something more than traders and manufacturers for private profit. It expects them to be truly representative of the national interests, and to seize upon national opportunities. The pressure for the government to enter upon various socialistic experiments is prompted by the instinct for national organization and the wish to see national interests safeguarded and forwarded. In many instances these interests can be most effectually safeguarded and forwarded by organizations of business men, or, where governmental authority is required, by the cooperation of Government with business organizations. The situation today as to dyestuffs presents one of these national interests, the shipping problem presents another, and the situation as to our export trade, and, if you please, as to our trade in cotton goods, perhaps another. These problems are larger than questions of self-interest; they are matters of public policy, problems in statesmanship. We have an unusual opportunity now in Latin-America, and what each branch of trade does with its opportunities concerns every other branch; indeed it concerns the general rapprochement between the United States and these peoples with whom we have long desired closer commercial relations. These peoples are more receptive and responsive than they have ever been before. The market is a growing one, and when our goods are established there they will be sold on their merits at a fair price.

If one man owned the cotton goods industry of this country, I venture the opinion that he would soon supply more than 4 or 5 per cent of the imports of South America, which has been about our share in the past.

If one man owned the cotton goods industry he would find out what merchants there were responsible and trustworthy, and give them the usual terms and courtesies accorded to merchants of that stamp. There was a time when little credit information for South America was to be had, but that is no longer the case. These people are unfavorably influenced in a peculiar degree by unusual and arbi-

trary rules which bespeak an attitude of indifference and suspicion.

If this were a one man industry, he would have the cotton goods exports handled by somebody who understood the trade, and so avoid the disputes and grievances that are constantly arising from the efforts of ignorant and incompetent novices, not to speak of the tricks and bad faith of unprincipled traders. After all that is said and written about careless packing, it is astonishing and exasperating to learn how many goods are consigned from interior points to foreign countries in cases which go to pieces by the time they reach New York. The effect of the delivery of damaged goods, or goods untrue to order, upon a buyer who has been required to pay in advance is well-nigh fatal to a development of foreign trade. I am sorry to say that in recent weeks, when for many reasons the vexations of foreign trade have been more trying than usual, the Dry Goods trade has been particularly under criticism. Of course the old houses in the trade do not make trouble of this kind, but the new concerns, who wanted a little export business last year to tide over a dull time and who backed away from it or cut loose from it with great formality as soon as trade revived at home, have done much harm.

Of course, when I speak of the virtues of one-man ownership, I am merely emphasizing the value of singleness of purpose and of a centered resonsibility. If this country's export trade in cotton goods could be put in the hands of a representative organization charged to conduct an aggressive, comprehensive campaign, I am sure the results would be gratifying; I believe they might be little short of phenomenal.

The cotton goods industry illustrates in many ways the progress and problems of all the industries, and the general economic tendencies of the time. The amount of capital employed in manufacturing cotton goods in the United States increased from $460,842,772 in 1899 to $822,237,529 in 1909, or 78.4 per cent. The average number of wage-earners in the industry increased only 27.2 per cent in the same period, but the total of wage payments increased from $85,126,310 to $132,859,145, or 56.1 per cent. The production of cotton goods increased 38 per cent. The history of this, as of all industries, shows that capital is a constantly increasing factor in its progress. In 1830 the capital investment was $651 per employee, in 1880 it had risen to $1,207 per employee; in 1899 it was $1,545 and in 1909 it was $2,170. In these ten years, while the production of cotton cloth was increasing by 38 per cent, the population of the country was increasing by 21 per cent. As exports and imports remained about the same, these figures show that the people of this country consumed substantially more cotton cloth per head in 1909 than they did in 1899, and since cotton cloth is a class of goods used by everybody, there could hardly be better evidence of widespread prosperity and an increasing degree of general comfort and well-being than this.

The increasing employment of capital in the manufacture of cotton goods has never meant that fewer wage-earners were required in the industry. The number of employees has been increasing, their pay has been rising, the production of cotton cloth has been greater, and the distribution of cotton cloth to the millions of all occupations throughout the United States has been greater as a result of the improved facilities which capital has supplied.

The value to the public of capital expenditures for the betterment of the industries is not as well understood as it should be. In popular discussion all capital growth is treated as insuring exclusively to the owners and proprietors, but the figures for the cotton goods industry illustrate how the entire community shares in the benefits that accrue from such improvements.

The railroads have accomplished large economies in recent years by improvements in the methods and equipment of transportation, and experiments have shown that they can make further savings by the substitution of electricity for steam power, but large amounts of capital will be required for the change. Every advance of this kind occasions a new distribution of benefits, which may be in higher wages, new capital accumulations, or lower transportation charges. If there are new capital accumulations, the self-interest of owners will prompt that those capital accumulations in turn be used in providing still other new facilities or improvements of benefit to the public.

The steel companies, besides increasing wages, are now spending many millions of dollars for the installation of by-product coke ovens. This process will save useful products that have been going to waste, and these expenditures are therefore of more certain and permanent benefit to the whole public than the increased disbursements in wages.

If this is the true and only line of progress, then all parties and classes should co-operate in efforts to make industry more productive. The leaders of organized labor should combat the mistaken notion, still too prevalent in some quarters, that labor is interested in restricting the output, and encourage the adoption and development of improved methods. The common benefits of increasing production, the essential unity of all industrial interests, should be a central idea in our system of education.

I read the other day the statement given out by the head of the United Mine Workers commenting upon the recent wage increases in the coal industry. He said that these increases would help the men at work in the mines to meet the rising costs of living. If the other costs of living must rise, it is only fair that the pay for mining coal shall rise correspondingly, but it is certain that a rise in the price of coal means a further rise in the cost of living all along the line. It will not only increase the cost of warming the workingman's home and cooking his meals, but, as it increases the cost of power, it increases the cost of operating every railway and factory, and so raises the cost of every article that enters into the home. I do not criticise this or other wage advances, but it is important to recognize that wage advances alone do not signify progress. To be worth anything to the nation they must signify in return for the larger wage a larger distribution of the things that the wage-earners want, and that can come only as wage-earners, inventors, scientists, managers, and owners of capital, by joint efforts, are able to increase and cheapen the production of those things.

There is much vague talk about a broader distribution of wealth, but every producer of wealth is trying his best to distribute it. The distribution that is of the first importance to the community is not a distribution of the means of production, but a distribution of products—not a distribution of cotton mills but of cotton cloth. The

distribution of cotton mills, or of ownership in cotton mills, will take care of itself when there is equality in ability to run cotton mills. Society's chief interest is that every industry shall be handled with the highest possible efficiency, so that there shall be the largest possible distribution of the things that minister to human wants and promote individual well-being and advancement.

At present all attention seems to be centered upon ownership, as though a widely distributed proprietorship assured an abundant and widely distributed supply of goods; but it does not. The new Trade Commmission has been conducting an inquiry and finds that an astounding number of business concerns are carried on practically without profit, and that a still more astounding number make no analysis of costs and do not know whether they are making a profit or not. The Commission rightly considers that this state of inefficiency is not a matter of mere private interest but one also of vital public interest. It is not probable that higher wages, lower prices or industrial progress will come from this class of proprietors. We cannot hope through this class of careless, uninformed proprietors to meet the competition of the future.

We cannot stand still. Population increases and presses upon the sources of subsistence. We cannot hold our own, saying nothing of progress, unless our methods of production and distribution are constantly improved. All that inventive geinus, backed by ample capital, has been able to do in the manufacture of cotton goods, has not overcome the rising price of raw cotton in recent years. Likewise in the last fifteen years every industry has been struggling with the higher costs of food and raw materials. They are the chief influence back of this rising cost of living.

The Bureau of Mines, of the Department of Commerce, at Washington has recently made a report upon gasoline production which closes with the opinion that hope for a supply of gasoline commensurate with the increasing demand depends upon the development of methods for "cracking" the atoms of crude oil, and thereby releasing larger percentages of gasoline than are now recovered. And so in all the industries there are atoms to be "cracked" that will release new supplies of the things that have become necessary to our standards of living.

No opportunity to improve the economic organization, both for production and distribution, should be neglected. We must eliminate the friction and waste. Here is a great lesson that our government administrators, and back of them the voters of America, must learn. We cannot afford to oppose or penalize highly organized, large scale production, for the sake of preserving small scale operations, when large scale production is clearly more effective. The public must have better service than incompetent employers, ill-equipped and poorly located establishments, mediocre ability and haphazard methods can give. But from the time when the weavers broke up the first power looms because they thought machinery would rob the workingman of his living, every new departure calculated to simplify industry, to make labor more effective and to increase the production of useful things, has encountered opposition springing from the same type of ignorance. Somebody is required to move out of his accustomed path, somebody has to quicken his pace or learn new work, and there is always, and rightly, the possibility that somebody will get rich.

Nevertheless, the world has moved steadily forward in the past, and we cannot doubt that it will continue to do so. To associated bodies of business men like this the country looks naturally for counsel upon economic policies. In this time when there is so much of uncertainty, and yet so much of opportunity in the outlook, it will hear of your deliberations with more than ordinary interest. We want more of the influence of business men in public affairs, but I do not need to say to you that to increase that influence they must offer sincere and devoted service to the public interests.

At the close of this interesting address the president announced a short recess to give the members an opportunity to meet Mr. Vanderlip.

Then came three papers on

### Dyestuffs

by Edward S. Chapin, L. W. Cronkhite and H. A. Metz. Extracts from these will be found in the dyeing, bleaching and finishing department of this number.

The morning session then adjourned to allow the members an opportunity to visit the big machinery exhibit in Mechanics Hall.

Wednesday evening

### The Association Banquet

was held in the ball room at the Copley-Plaza, the tables being well filled. Upwards of 400 persons were present. The speakers of the occasion were Hon. Joseph E. Davies, of the Federal Trade Commission, and President Darwin P. Kingsley, of the New York Life Insurance Co. President Albert Greene Duncan presided. The Copley-Plaza orchestra rendered musical numbers and accompanied the singing of popular songs by the members led by Stephen C. Lowe. Mr. Lowe impersonated the celebrated band leader John Philip Sousa on one or two pieces and his make-up and imitation received much applause.

President Duncan opened the speaking by a reference to the late Secretary Woodbury, in which he expressed the deep feeling of the Association members. He touched upon some of the historical features in the annals of the organization since its establishment in 1854, and suggested that at this epochal period, he believed it pertinent to ask whether the policy and work of the association were all that they should be, and were they realizing in the fullest degree the ideals for which such an organization should strive. He stated that the association started with 14 members who came together to discuss technical and practical subjects and that, until recent years, this has remained one of the chief objects of the organization. He felt that there was not the same need now that there was in 1854 for such work, the wonderful development of the textile press and the superior efficiency of salesmanship greatly diminishing the need of such association work. On the other hand, he stated, that some members of the Board of Government believed that practical and technical papers read before the association, and then passed upon by the Board and inserted in the transactions are given an authority that they could obtain in no other manner. It was his personal belief, however, that there was greater need than ever before for a truly representative organization of cotton manufacturers, to whom the various departments of the national government and other national organizations could look to as representative of the industry and as speaking with authority for it. "We are called the Nation-

al Association of Cotton Manufacturers," he said, "and we include in our organization practically every branch of the textile industry, thus having the basis of a truly national organization. Mill men and representatives of allied interests should work together to put the organization on a broader and firmer basis than ever before, and if it becomes necessary manufacturers should be willing to make the expenses of the association a part of the expenses of their corporations."

In introducing Mr. Davies he stated that a year ago he had expressed what he felt to be the sentiment of the industry and of business men generally regarding the Federal Trade Commission, but that he was frank to admit that his criticisms were a mistake. He was satisfied he said that no better board could have been selected, and they have met us more than half way in solving our problems.

The address of Mr. Davies was to the subject "Government and Business" and in many respects followed along the same lines as the address of Federal Commissioner Harris at Atlanta. Mr. Davies deviated from the address given to the press and discussed the effects of the European war from a business standpoint. It was a splendid address delivered by a man thoroughly at home with his subject, a fact appreciated by everyone within the sound of his voice.

PRESIDENT-ELECT ALBERT FARWELL BEMIS.

The address of President Kingsley was to "The Trilogy of Democracy." It was a wonderful subject and the oratory of the speaker held his hearers spellbound as he discussed the "preparedness" plea, its cause, its need and perhaps its results. Many present who heard this oration declared that it alone was worth the time and expense of the Boston trip.

### The Thursday Morning Session

was called to order and opened by the presentation of the paper on "The Relationship of New England Agriculture to Manufacturing," by Dr. Kenyon L. Butterfield.

This was followed by the other papers on the program in order as follows: "Calico Printing; its Origin and Development," by Robert Reoch. "The Cotton of Ancient Peru," by Morris DeCamp Crawford, of the American Museum of Natural History. "Does the Comber Remove Short Fibres?" by William E. Hatch and William Smith, New Bedford Textile School. "Cotton Handling in Southern Warehouses," by John R. Fordyce. "Current Progress in Industrial Illumination," by Ward Harrison. "The Boiler Code of the American Society of Mechanical Engineers," by S. F. Jeter.

A luncheon was served in the Grill Room after which the members reassembled for the last session, papers being presented as follows: "Tests of Cotton Yarn and Fabrics," by S. W. Stratton, Ph. D., Director of Standards. "The Washington Conference and Its Relation to Tire Fabric and Other Testing Requirements," by William D. Hartshorne. "Comparative Tests on the Amount of Moisture in Cotton," by Robert E. Naumburg.

Extracts of some of the foregoing papers will be found elsewhere in this number.

Then came the report of the committee on resolutions, and finally the election of officers, who were as follows: President, Albert Farwell Bemis, Boston; Vice-Presidents, W. Frank Shove, Fall River, Russell B. Lowe, Fitchburg; Directors for three years, Philip Y. DeNormandie, Boston, Herbert Lyman, Boston, R. M. Miller, Jr., Charlotte, N. C.; Director for one year, John E. Rousmaniere, New York.

Following the announcement of the election the new president was escorted to the platform where he thanked the members for the honor conferred upon him. The meeting then adjourned.

### More Barrett Service.

The Barrett Co., 17 Battery Place, N. Y., have added one more feature to the Barrett service. This is a 20-year surety bond guarantee which will be given hereafter, without charge, on all Barrett specification roofs of fifty squares or more in the United States and Canada, in towns of 25,000 and over and in smaller centers where the inspection service of the Barrett Company is available, provided the roof is laid by a roofing contractor satisfactory to them and in strict accordance with the Barrett specification dated May 1st, 1916, and subject to the inspection and approval of the Barrett Co.

Their experience has convinced them that with the workmanship properly safeguarded, a Barrett specification roof will last to a minimum period of twenty years without repairs, and in offering this guarantee bond to roof purchasers, they are merely giving the benefit of their experience to the architects, engineers and owners of Barrett specification roofs. This surety bond will be issued by the United States Fidelity & Guaranty Co., of Baltimore, which is one of the largest and best known surety companies in the country. A copy of the new specifications will be forwarded to any interested party on request. A letter to the nearest office of the Barrett Company will bring full information.

"Moving Material Indian File," is the title of a booklet recently issued by the Link Belt Co., 39th St., and Stewart Ave., Chicago, Ill. It contains a great deal of interesting and useful information concerning conveyors of various types and for various uses. Copies will be sent gratis to anyone writing for Booklet No. 267.

# Some Glimpses of the Boston Textile Show

BY THE OBSERVER.

The wisest men that e'er you ken
Have never deemed it treason,
To rest a bit—and jest a bit,
And balance up their reason;
To laugh a bit—and chaff a bit,
And joke a bit, in season.

—*M. G. Kains.*

Sandwiches with a frosting of snow was Boston's contribution to the Fifth National Textile Exhibit and Third National Power Show that were held in Mechanics Hall, Boston, the week of April 24-29. Beginning the week, rain and sunshine, with the emphasis on the rain, intermingled in true April style until on Friday morning, in order to do the utmost for the visitors, Boston broke a record of 28 years and furnished a snowfall that was officially 7.6 inches deep. In reality it melted rapidly and formed slush which caused a rush on the umbrella and rubber shoe stocks.

The show was a huge success. Large numbers of Southern men attended, arriving in parties of from four to twenty, and the Northern attendance at these shows is always large. The only criticism heard was on the admission of thousands of Boston school children and the manner in which they were handled. Many, perhaps the majority, really tried to see and understand, but all were evidently instructed by the teachers to secure catalogs to aid in the preparation of a story afterward. The result of such instructions being that groups of boys would descend on a booth like a flock of locusts and unless the attendant were watchful, the place would be cleaned out of anything resembling catalogs or printed matter, some boys securing half a dozen or more of the same booklet, as one exhibitor expressed it, "they took everything that wasn't too hot or too heavy." As the Observer passed from exhibit to exhibit his note book became plethoric with memoranda on men and machines, incidents and allusions until it resembled a soup listed on the menu at the hotel called "Hodgepodge a la Mary Garden." The following observations culled from that note book and mixed with a suitable amount of seasoning will, he hopes, prove an appetizing story for those readers who did not attend, and tickle the reminiscent palate of others who were fortunate enough to be present.

Boston annually conducts the largest automobile show in the world. It would seem that New York or Chicago would stage the greatest, but nevertheless Boston has that honor. This fact may not appear to have any bearing on the textile industry, but when the Textile Exhibitors' Association went searching for a man to manage their exposition they hit upon the man who had built the largest auto show. He is Chester I. Campbell, and what he has accomplished for the automobile industry he has repeated in the textile field as the exposition recently closed was easily the most collossal exhibit of textile machinery and mill supplies that has ever been assembled under one roof. Mr. Campbell does not lay claim to being a "show man." Staging expositions is his specialty. He has the happy faculty of gathering the big men in an industry together and showing them the value of public exhibitions and when they go into it he proves that he is right. He has demonstrated this to the textile world very forcibly. Ten years ago when the Textile Exhibitor's Association was organized they asked Mr. Campbell to direct their "show." In a remarkably short time he got about 30 exhibitors together. The exposition was a success, and two years later, twice that number displayed their machinery. Two years ago the real value of the exposition was discovered and when the doors of Mechanics Building were opened there were six acres of machinery, mill supplies and power devices on exhibition.

"The Fifth National Textile and Power Exposition demonstrated to me that it is, in my opinion, in its infancy," declared Mr. Campbell to a representative of COTTON at the close of the present exposition. "It doesn't take any wonderful analysis of the past 'shows' to prove it. Each exposition has brought a greater variety of the different branches of the industry as exhibitors. This year we had a much larger representation from the woolen and knit goods industry. Two years from now the exposition will have many more woolen, knitgoods and silk machinery manufacturers."

This is a picture of Beirne Gordon, Jr., snapped by the staff photographer while Mr. Gordon was skeeing in the mountains. Certainly he has on a collar. The reason he has his coat collar turned up is to prevent the snow from getting down his back when he plunges into the huge snow drift he sees just ahead. Born in Savannah, Ga., 32 years ago, he soon became a student of cotton manufacturing as one of the greatest industries of his section. Following this natural trend he journeyed to New England as the seat of cotton manufacture and graduated at the New Bedford textile school. After graduation he decided to work in a number of mills in order to gain a broad knowledge of the industry. Accordingly he devoted the next eleven years to working in about ten different plants. Six years ago he accepted his present position as superintendent at the Skenandoa Cotton Company, Utica,, N. Y.

Mr. Gordon has but two hobbies, cotton mills and dogs. While a book might be written about the latter subject, he has introduced a development in the former that is more worthy of a place in these columns. This refers to his efforts to produce better yarn from cheaper cotton. In order to do this he has placed upon the market the Gordon double lickerin attachment, which does not produce a harsh treatment tending to break or injure the fibre, but is just a step ahead in cleaning cotton. The attachment also safeguards the card clothing from damage, as no foreign material or bunches can reach it to raise the wires or damage them. This means less grinding as well as better carding. More even sliver is produced which means more even as well as stronger yarn. The two largest manufacturers of cotton cards in this country investigated thoroughly before putting their name on as builders of the Gordon device. A demonstration is the best argument. To see solid trash

with no fibre removed from dirty cotton and the resulting sliver practically free from specks shows plainer than words what the machine will do for any mill.

In order to successfully market this device Mr. Gordon joined forces with R. Kingsland Hay, and formed the Gordon-Hay Company, Inc., of Utica, N. Y., and 44 Broomfield street, Boston. The apparatus was shown in operation at space 29 throughout the week.

This is a pen and ink sketch of R. S. Parks as drawn by himself. You might infer from looking at this sketch that he was burning money. This is not the case. Rob's not that kind of a fellow. He's too thrifty. It might be well to also state that he is not placing this money in the boiler furnace for safe keeping. His methods are much more conservative. As a matter of fact, this sketch was drawn to illustrate the truth that a man can put a great deal of money into a boiler furnace without knowing it if his piping system is not erected in the proper "Parko" style. Rob was present at the exhibit of the G. M. Parks Co., in spaces 50 and 56 on Tuesday and Wednesday. Other representatives present during the week were Fred Parks, Ben Cottrell, A. W. Thompson, C. W. Scott, H. M. Parks and S. W. Smith.

An interesting bulletin at the exhibit stated that the G. M. Parks Co., had installed since March, 1908, 30,680 Turbo humidifying heads in 19 states and 9 foreign countries. These installations were made in 191 different plants. The exhibits, consisting of single heads and clusters were mounted on pipe columns. The newest and one of the more interesting devices shown was the Phychrostat. This is a simple automatic humidity controlling device containing a wet and a dry member, the variation in atmospheric conditions causing the device to operate and alternately open and close the Turbo heads to which it is connected. A complete illustrated description of this device is in the April number of "The Fog Horn," which was being distributed at the exhibit, or which may be secured by addressing the company at its Fitchburg office.

W. F. Kimball, president of the New York & New Jersey Lubricant Company, 165 Broadway, New York, was personally taking charge of the interesting exhibit of this company at space 546, where their Non Fluid Oils and other lubricants could be examined and demonstrated. A number of assistants were also in attendance. They distributed an instruction book on textile machinery lubrication, illustrating the machinery and pointing out the difficulties with rules for avoiding them.

Herbert S. Stillings of the Lyster Chemical Company, 61 Broadway, New York, was showing at space 77 a wood preserving material made in America from the hard woods. "No-D-K" has been used for years in the textile plants of the North and through the active work of H. S. Gibbes of Atlanta and J. R. Lawrence, Jr., of Greenville, the Southern representatives of the Lyster Company, together with an active publicity campaign, it is rapidly becoming better known among the Southern mills. Other products of this company are lasting shingle stains for mill tenements, a powerful disinfectant known as "De-sep-tol" and an efficient deodorant called "Fumo."

Edward B. Smith, the sole representative of the Whitinsville Spinning Ring Co., of Whitinsville, Mass., probably has a wider acquaintance among the mill men than most salesmen traveling out of New England territory. A native of Rhode Island, he has been connected with the textile industry for 35 years. A part of this time was spent in New England mills in a variety of positions, which gave to him that practical experience so necessary to the success of a technical salesman. Ed is not only a successful salesman, but a Chapter Mason and a general good fellow. He was in charge of the exhibit of the Whitinsville Spinning Ring Co., at spaces 513 and 514, where he was showing rings for spinning and twisting cotton, silk and wool. Also traveler cups and guide sets. It should be remembered that his company has been specializing in spinning rings for 43 years.

Spaces 120 to 125 were occupied by the exhibit of Crompton & Knowles Loom Works, Worcester, Mass. This was composed wholly of automatic magazine looms changing automatically only such colors as are desired and only when required. These included two types of gingham loom, a two-color and a six-color; a terry towel loom equipped with a four-color magazine, three cells of which are used for the ground or body of towel, thus allowing for a large number of reserve bobbins, and the fourth cell for the border; a cotton blanket loom running with four colors, with a Jacquard controlling the pattern, weaving a figured blanket, and presenting a practical illustration of the wide range of work for which the automatic loom is adapted. Also a duck loom in which the shuttle is automatically changed, instead of the bobbins, upon the near exhaustion of the filling, and this change is made without loss of production, as no picks are lost in making the transfer.

For years there has been a call for automatic looms on which could be woven goods with filling of different colors or sizes inserted at predetermined intervals, and equipped with the necessary devices to admit of weaving practically perfect goods. As a result of the experimental work, and inventions resulting therefrom, the Crompton & Knowles Loom Works has perfected and placed upon the market the looms of different sizes and types, constructed with changeable shuttle boxes combined with magazines, which are marvels of ingenuity, accuracy and efficiency. The construction embodies simple and efficient means which admit of a practically continuous operating loom, weaving goods with filling of two or more colors or sizes, automatically changing the depleted bobbin just before the exhaustion of the filling, and replacing the depleted bobbin with a filled bobbin of corresponding color or size of filling selected from the magazine. Immediately in front of and under the magazine, either stationary or rotary, is a detector, feeling through to the bobbin. While the bobbin retains a sufficient quantity of filling, the feeler motion is inoperative. Upon the near exhaustion of the filling, the feeler becomes operative, causing the indication for the initial movement of the bobbin from the magazine and then the displacing of the bobbin in the shuttle by a filled one of the corresponding color or size.

Present at the exhibit were President C. H. Hutchins, Gen. Supt. G. F. Hutchins, Charles F. Hutchins, F. W. Howe, C. R. Howe, Henry Favor, Sid Alexander, E. T. Garsed, A. L. Phillip and G. D. Thayer.

Rogers W. Davis, whose face is familiar to most Southern cotton manufacturers, hails from the red hills of Georgia. Born near Covington, he attended Emory College at Oxford, and the Georgia School of Technology, graduating from the latter school with the class of '93. He was employed as mechanical engineer of the George B. Sickles Co., and after several years' successful service, became assistant superintendent of the Porterdale Mills of the Bibb Mfg. Co., under Superintendent John A. Porter. In 1900 Mr. Davis began work as salesman and engineer with the Southern office of the Lowell Machine Shop, where he continued until 1911, when, with the closing of the Southern office, he removed to Lowell, Mass., as agent of the Kitson Machine Shop and selling agent for the Lowell Machine Shop. In 1912 he returned to Atlanta at the behest of these companies to open a new Southern office, but in about a month after this office was established these shops were consolidated with the Saco-Pettee Company, the new corporation being known as the Saco-Lowell Shops. Coincident with this consolidation, Mr. Davis removed to Charlotte, N. C., as Southern agent for the new corporation.

Mr. Davis was personally present at the exhibit of the Saco-Lowell Shops, where the following machines were shown in operation: One vertical opener, which embodied many new features not found in other makes of Creighton openers. The method of grate bar adjustment, the self-aligning ball bearing boxes and other improvements attracted much attention. A 4-coiler card was equipped with the latest front, which is a great improvement in the simplicity of design and ease in operation. The card was clothed with Ashworth's 5-ply rubber fillets specially adapted to this class of work. One 9x4½ slubber adapted to working waste; a spinning frame adapted to spin waste and cottons with short fibres; one spooler which is the latest word in spoolers made by this company and was shown as a "filling wind" spooler with two different styles of tensions, both styles giving excellent results. The general design of this machine with its locking doors, enclosed mangle wheel and supply device attracted much attention. One twister, and one spinning frame. They also showed a spinning frame designed to spin the longest staples of cotton, one side equipped with self weighted rolls, and one side equipped with the regular weighting which is common in this country. The general features of the machine were the same as the spinning frame now on the market.

Besides Southern Agent Davis, the following representatives were also present: F. J. Havey, H. D. Lord, C. E. Wakefield, Al Greene, Charles Mills, Wm. H. Goldsmith, Robert F. Bowe, Harry Cole and Jimmie Strang. Messrs. Snelling, Hale and Howe from the executive offices of the Company in Boston visited the show several times during the week.

John H. Giles was in personal charge of space 115, where the exhibit of John H. Giles Dyeing Machine Co., of Taunton, Mass., was shown. The exhibit consisted of the latest type of skein dyeing machine in operation with yarn in place, so as to demonstrate the operation of the Giles ratchet cup and star which do not break and which always operate, thus preventing stick-marked yarn.

Over at space 78 J. Harry Thompson, the efficient sales manager of the Hussong Dyeing Machine Co., Groveville, N. J., was demonstrating the Hussong dyeing and bleaching machines. For sulphur dyeing, these machines are of iron throughout, with wood machines and interchangeable iron racks or cages for rinsing. For silk or a large variety of colors in the same machine, copper and monel metal linings and copper, bronze and monel metal fittings are furnished. For alizarine, acid colors and bleaching, metal parts, excepting propellers and steampipes, are wood-encased. All stuffing boxes, valves and working parts except suspended propellers, are placed above the machine, beyond the attack of the acids and chemicals. Another advantage is a hand or pneumatic hoist, with which stock is transferred, without labor, from one to another machine. By this means, the liquor may be retained for successive batches, without the necessity of transferring to tanks, resulting in a saving of time and a further saving in steam. Unfinished batches may be suspended during the noon recess or from one day to another. Owing to concentration of the liquor and immersion of stock throughout treatment, less steam and a reduction of time result. Machines being covered, the loss of steam is reduced to a minimum. Throughout treatment the only movement of the stock is upward or downward of the entire mass, with the reversing of the flow. The stock is entered with the downward flow (this makes a mechanical reversing device impracticable). Stock remains in one position until finished, when it is lifted, with the flow downward, leaving the stock straight and without tangles or matting.

A. H. Pratley, the New England representative of Morris & Co., Inc., Groveville, N. J., also occupied space 78 and exhibited a fine line of Morris mill baskets, bags and trucks.

Entering the knitting factory of his father in Switzerland at the age of 12 years, Max Nydegger early became familiar with knitting processes and difficulties. Fifteen years ago he entered the employ of the Grosser Knitting Machine Company and three years later came to the United States to become American representative. He built up such a successful business on this side of the Atlantic that it became necessary to build an American factory at Brooklyn, N. Y., which is equipped to build all kinds of flat knitting machines.

In the exhibit at space 59 he was showing a pearl stitch or links machine, of American manufacture, with large needle bed space for the manufacture of auto, aviation and sporting garments. A Grosser double lock power machine for sweater work or wherever cotton back or transparent goods have to be made. A pompon machine adapted to make all kinds of pompons of various materials without waste, to be used in trimming or finishing knit headwear. A brushing machine for napping knit goods, which raises a high nap on mohair, worsted or silk goods. The "record loopers" were noticeable by their absence, war conditions preventing shipments at present. Mr. Nydegger is located at 260 West Broadway, New York.

This is not a picture of W. O. Talcott. It is a photographic representation of a Rhode Island clam. The only connection between Mr. Talcott and this succulent bivalve is that they both do business in Rhode Island. Mr. Talcott is not a native of "Little Rhody," having spent his early youth and received his education in Chicago. Immediately after leaving high school this young Westerner came to the East in search of business worlds to conquer, and at the age of 20 purchased the patent rights and good will as well of Greenleaf Wilson, then located in Lowell, Mass. Removing to Providence in 1877, he began the manufacture of what was and is still known as the Wilson belt hook. This was a hook designed for single leather belts. Later he added a line of clinching hooks for high speed machinery and for rubber belting. Then came the combination hooks which clinch on one end only. The latest hooks are the Acme steel hooks, which allow a certain flexibility to a belt that has been found advantageous under some conditions. The firm name has recently been changed to W. O. & M. W. Talcott, through the son, M. W. Talcott, going into the business with his father. The interesting exhibit of this company was at space 544, where a large number of souvenir clams were distributed. Any mill man who failed to secure one of these clams at the show may secure one postpaid for the asking by writing to the factory at 91 Sabin street, Providence.

J. M. Wilson, a North Carolina boy, was in active charge of the interesting exhibit of the Klauder-Weldon Dyeing Machine Co., at spaces 135 and 136. This company has recently moved into its new factory at Yardley, Pa. The exhibit contained a new scouring machine constructed on the well known principle of conveying the yarn through the bath by means of double aprons. Heretofore the serious objection to this type of machine was the amount of floor space required, the frequent need of repairs, and the difficulty, on account of the inaccessibility of the parts for making repairs. The Klauder-Weldon Company, after a most exhaustive investigation of the methods which might be employed for scouring yarn, decided that the apron method would be superior to any other if the objectionable features could be overcome. An established and proven method of carrying the yarn was used. The floor space has been reduced over one-half. Greater cleansing efficiency has been obtained by the use of oscillating carrier frames. All parts are made readily accessible by utilizing a hoist to lift the self-contained conveyor system out of the vat and it is easily replaced since the anchor boxes locate and hold it in position. The production has been increased and the delivery of from 12,000 pounds up per day is assured, according to the condition of the yarn.

The company also showed a skein dyeing machine with friction clutch for dyeing woolen and worsted yarns. On this machine was seen many improvements recently brought out whereby greater capacity is gotten from the machine without increasing liquor space; doing away with small working parts and many improvements in the details of the construction of the machine. This machine was equipped with sliding transmission or automobile drive, so called. It had no springs on the ratchet cups or the inside covers and many other minor improvements were noticeable in its design.

General Manager W. S. Duell was in attendance a part of the week. Henry Higgs, vice-president and New England manager, was also present.

Herbert Midgley, the new president and general manager of Howard Bros. Mfg. Co., Worcester, Mass., was in charge of their exhibit at spaces 57 and 58. Mr. Midgley's face is familiar to most Southern mill men, as he was present at the Greenville show. He began work for Howard Bros. when a boy and worked his way to the position of superintendent by energy and close attention to business. He has an intimate knowledge of the details of card clothing manufacture and is rated as one of the most efficient and expert men in this country in his line of business. The death of Mr. Howard recently necessitated a change in the management and Mr. Midgley was made president and general manager.

The exhibit contained a cylinder fillet machine and a doffer fillet machine, each in operation, while the back wall of the exhibit space was a painted drop showing the interior of a part of the Worcester factory. Other representatives present were Everett Eddy, the Eastern representative; Joseph Bolger, of Philadelphia, who handles the Western territory; William Cassidy, the New York State representative, and Southern Representative E. M. Terryberry, of Charlotte, N. C.

J. Irvine Lyle, treasurer and general manager of the Carrier Engineering Corporation of New York, is a native of Kentucky and a graduate of the Kentucky State University, class of 1896, with membership in the Sigma Chi and Tau Beta Pi fraternities. After serving the Pullman Company, the Cincinnati Southern Railway and the Buffalo Forge Company, he was made managing engineer of the New York branch of the latter company in 1901, a position which he held for seven years.

When the Carrier Air Conditioning Company was formed, in 1908, as a subsidiary to the Buffalo Forge Company, Mr. Lyle had thoroughly demonstrated his efficiency as a manager, not only through his personal capacity for effective work, but as an organizer and director of men, attaching to himself competent and loyal associates. His selection as manager resulted in a standardization of the company's efforts and Mr. Carrier's scientific achievements were given the proper presentation to the public which is so essential to the commercial success of an enterprise of this character.

The management of this company required more than the usual measure of engineering ability to meet the new problems almost daily presented. Its success made essential executive capacity and constructive energy to develop this new industry on a national basis and keep it on the broad liberal policy necessary to its successful growth. The present enviable reputation of the "Carrier System" evidences how well Mr. Lyle filled these needs and more.

Mr. Lyle is the author of several papers presented before leading engineering societies, and by invitation he appeared before the International Congress of Refrigeration

in 1912 and presented a paper on Atmospheric Dehumidifying. He has lectured at several universities and has been active in the American Society of Mechanical Engineers. Processes of dehumidifying and air conditioning apparatus for the regulation of humidity and the weighing of air in several special industries have been invented and patented by him.

The exhibit of this concern was located in space 55 and consisted of a miniature building with sectional walls showing the application of the Carrier equipment for air conditioning and automatic temperature and humidity regulation. Ernest Lyle was also present during a larger part of the week.

Alfred Suter, textile engineer, 200 Fifth avenue, New York, was exhibiting at space 100 a series of yarn and cloth testing apparatus, such as direct yarn numbering scales, on which a 120 yard skein will show the number of the yarn on a dial; two kinds of yarn reels, to make two or directly seven skeins of 120 yards, or on hank roving reels; twist testers with take-up registering device and magnifying glass for also getting the spinning twist; yarn examining machines for inspecting yarn on black velvet covered aluminum boards, and for making record cards for filing or mailing purposes; single strand strength and elasticity tester, with oil-tank controlled pull, showing also the elasticity of the yarn; cloth strength testers, made also for twine or skein testing; and conditioning ovens, to determine the amount of moisture in raw stock, yarns and in cloth. A new ball or tension device which has proven especially advantageous in spooling directly from filling wound bobbins was shown.

Not so many years ago a roving can specialist was a personage unheard of in the textile field, but with the increase in the number and size of the mills and the specialties they use, has come the specialist in specialties. The handsome young man whose face is depicted here is J. W. Cass of the Leatheroid Mfg. Co., 121 Beach street, Boston, and for the past seven years he has occupied the position of roving can specialist. For the benefit of the ladies, it may be stated that he is a native of the hills of old New Hampshire and is unmarried. He assisted in presiding at the exhibit of the Leatheroid Co., at space 18, and was especially stressing the patented rolled top seamless roving can. This top is rolled in and under two and a half times, having no steel rim underneath the roll to break the can. Messrs. Eaton and Rogers, from the Boston office, also visited the exhibit during the week.

The American Laundry Machine Co., of Cincinnati, Ohio, had a large exhibit at space 174, where they were demonstrating a number of the machines manufactured by them. One of these was the American automatic underwear press, which is automatic in all respects. It is also equipped with steaming device for dampening and lofting. This steaming device is automatic and machine can be used with the attachment on one side of the machine open for dampening and closed on the other side, or both open for dampening and lofting after pressing; or the machine can be used without either of the attachments open. The operator places the goods on the frame independent of the machine. The frame is then placed in the machine and the operator touches the foot treadle; the frame passes under the chest automatically and while passing under, the goods are steamed. When the frame is under the chest, pressure goes up automatically and presses the garment. The machine is operated with a timing motor and the pressure can be adjusted from 7 to 39 seconds. The frame then drops away automatically and travels out to the delivery side of the machine, ready for the operator to take off. If steam is to be applied to the garment for lofting, it steams automatically as the frame is passing out under the chest.

Another machine shown was the Universal Press. This is made in various sizes, but this particular machine had an ironing surface 21x37 inches. This type of machine is made in several different sizes.

Another machine was the American overdriven extractor. They manufacture a complete line of extractors, both belt and motor drive, from 20 inches up to 30 inches, with standard speed or high speed baskets. The overdriven type run from 32 inches up. The overdriven machines are also made both belt and motor driven. The baskets of these machines are made to suit various requirements in textile mills as to acids, etc.

They also showed a Rose labeling and patch machine. This machine is manufactured by the National Marking Machine Co., Cincinnati, and the American Co. is handling it with the textile trade. The exhibit was in charge of George L. Wenzell, the Eastern representative. W. G. Taylor, manager of the specialty department at Cincinnati, was also present.

This is the picture of an F. F. V. Born and reared in a state that has produced seven presidents of the United States; graduated from Luray College with high honors; later working his way up to the position of purchasing agent with a prominent New York coal company, J. W. Grayson, the present sales manager of the National Scale Company of Chicopee Falls, Mass., three years ago saw the great future ahead for the products of this company and at once proceeded to climb onto the band wagon. The success he is achieving in this position has proven the wisdom of his selection.

The exhibit of the National Scale Co. was located at space 85 and contained a number of interesting features. The counting and weighing machines, which are built in 29 sizes, operate with speed and precision and exceed the possibilities of hand work by 100 to 1000 per cent. The multiunit system of sectional steel shelving will be appreciated by those who know the cost of erecting wooden shelving and the ease with which the sectional steel shelving may be adapted to new locations. The National-Chapman elevating trucks, equipped with special Hyatt roller bearings and improved hydraulic pull check, are being rapidly substituted for the old fashioned platform trucks in many efficient plants. These trucks are built in 17 sizes. Also this same truck may be purchased with a suitable scale-beam attachment, making a great saving in time and handling. The latest specialty developed by this company is the factory calling system whereby the office may instantly signal the superintendent or department foremen no matter where he may be located in the plant. Forty-five different signals may be sent out with this device. Besides Mr. Grayson, L. D. Howard, the treasurer of the company, was also in attendance.

John T. Chidsey, president and treasurer of The C. J. Root Co., Bristol, Conn., was born a suitable number of years ago to be right in the prime of life, and bids fair to remain so for a long time to come. He is a genuine Connecticut Yankee, born and brought up right in the heart of the district famous for its manufacture of small hardware and metal goods. Mr. Chidsey was connected for twenty years with The Sessions Foundry Co., the largest jobbing foundry in New England. In the fall of 1907 he assumed the management of the counter business established twenty-five years ago by the late Charles J. Root, and the present corporation was formed.

The C. J. Root Co. is probably acknowledged the oldest manufacturer of counters for all uses, and the first to advertise and sell general-purpose counters to the textile industry. They have installations in a large number of the representative plants in the New England and Middle States, the South, as far west as California, and many in Canada. The company is constantly adding to its line to meet the requirements of the textile industry, as well as the many other lines of business which it serves.

Personal supervision, and a definite guarantee of its products, are the practice and the policy of this firm. Its management has had a long and successful experience in meeting the exacting needs of its textile friends, and its present plans contemplate a closer connection with the Southern field.

Mr. Chidsey was in personal charge at space 149aa, where many of the numerous styles of counters made by this company were shown. Probably recording the production on the loom is attracting more attention than any other one service in the South today.

On the loom these counters record the number of picks or yards woven. The system of counting picks is generally employed in Europe, and the weavers are paid by the thousand picks, thus eliminating from the calculation the length of the goods and the picks per inch. A number of large cotton mills in the United States have satisfactorily adopted this system. For counting yards the counter can be geared to the take-up roll of the loom. For counting picks it can be attached to the front arch of loom with chain connected to the head motion of the shuttle registering each pick; or to the cam shaft registering each pick, or each one hundred picks, as desired. Manufacturers find this not only a check on production, but the most satisfactory way to pay for piecework, as there is no question of favoritism with a mechanical counter, both employer and employee considering them a "court of last appeal." They are a mental inspiration to the good workman—he knows his good output will be recorded and appreciated.

The American Kron Scale Co., of New York, exhibited in space 17 a picker lap scale mounted on a track with an overhead trolley and designed to be pushed back and forth in front of the finisher pickers. This scale is furnished in either 50 or 60 pound capacity, with one ounce graduations on the dial. There was a dormant platform scale, and counter scales and hanging pan scales for cloth room service. They also had their scale device mounted on a tripod showing the construction and principle and illustrating the almost total absence of friction. Present at the exhibit were J. Kirk Rowell, the Southern agent; Ernst Ohnell, vice-president; M. E. Fitz Gerald, district manager for New England; G. L. Hayes, of New York; John Hellstrom and T. A. Peterson, of Boston.

This does not depict a member of the Ku Klux Klan; nor does it represent General Joffre in a gas proof uniform; it is a cubist drawing of R. E. MacCausland, field manager for the Barber Colman Company, of Rockford, Ill. The digit on the front of his attire indicates that he is one of the "big seven." With the stick in his right hand he is pointing out the many good features of the machines made by his company. Among those shown at spaces 48 and 54 were the regular Model E warp tying machine and the old reliable hand knotters.

A new type Model K machine was shown. This new machine now ties the same kind of a knot as the Model E, which, when considered in connection with its portable character, increases the range and capacity of the machine in a marked degree. The loop knot formerly made sometimes prevented the thread from slipping freely through the harnesses and reed, but with the new system this is entirely overcome. Other representatives present were L. G. Goodrich and W. B. Anderson of the Boston office, J. H. Spencer, the Southern representative, with offices at Greenville, S. C., was unable to be present.

This likeness of A. S. Fuller, American representative for John Hetherington & Sons, Ltd., with offices at 178 Devonshire street, Boston, is familiar to nearly all mill men in this country, North and South. Last April Mr. Fuller completed his twenty-third year with the Hetherington firm, having been through the entire works in various capacities. In his early experience he worked as erector in several countries and was on the selling staff in England and the United States about 13 years. In August, 1914, he took over the American agency on the resignation of the former agent and the constantly increasing business produced by his office is an indication of his efficiency.

Mr. Fuller was in charge of the Hetherington exhibit at spaces 152 and 153, where he had a Nasmith comber in operation equipped with metallic detaching and drawing rolls, which were being exhibited for the first time. This machine was also fitted with an aspirator with ball bearing fans. While a regular weekly supply of these machines are coming in, there are not enough to supply the demand. It is of interest to note that about 50 per cent of new sales are being made in the South.

L. D. Armstrong was greeting his many friends at the exhibit of the Atherton Pin Grid Bar Co., Providence, R. I., at space 10. Improved grids were shown for making cleaner yarns and less waste, and the exhibit created much interest. The exhibit included their improved pin grid bars in adjustable brackets and stationary brackets. A new double-edge knife bar in adjustable brackets was also shown.

The American Tool and Machine Co., of Boston, showed a wide range of Weston hydro-extractors, including an 18-inch belt driven machine with an internal woven wire basket for special work. These machines were all self-balancing. Oil separators and hangers and boxes for transmission work were also shown. Edward J. Eichler was in charge.

At last perseverance has obtained its reward. It is with considerable pride as well as pleasure that the accompanying pen portrait of George F. Bahan at the age of three years is reproduced. After defying the camera for many years George at last consented to "sit" for a portrait, but the great amount of business during the past winter has so occupied his time that he had to again decline. However, this remarkable likeness was found in an old family album and will be at once recognized by his many friends. George was in attendance at the exhibit of the Emmons Loom Harness Co. of Lawrence, Mass., at space 150, where a multiplex cabinet, showing harnesses and reeds in all the different styles, for cotton, duck and silk weaving, also beamer and dresser hacks, false reeds, harness shafts, mail jacquard heddles, mending eyes and twine, harness twine, raithes and combs, was to be seen. A feature of the exhibit was a duck harness 172 inches long by 25 inches deep and a duck reed 172 inches long. Besides Mr. Bahan, the Southern representative, Messrs. Emmons and Jenkins from the factory were in attendance.

Mr. Bahan also represents in the South the U. S. Bobbin & Shuttle Co., of Providence, R. I., who provided a display of shuttles for cotton, woolen and worsted weaving on plain and automatic looms at space 41. There was also an interesting display of shuttle parts and fittings. In the center of the space was an arrangement of spools and bobbins in various sizes and styles. J. Henry Thorpe was also in attendance.

A display well worth a visit was the exhibit of card clothing manufacturing shown by Ashworth Bros., Inc., Fall River, Mass. This was located at space 23 and showed card clothing for cotton and woolen mills. A demonstration machine was shown in operation making tops for flat cards and a fillet machine making 120s wire fillet for cylinders and doffers. Henry Ashworth was in charge, assisted by W. H. Bigelow and C. B. Thomason. Jack W. Horner, the Atlanta representative, was also present.

In the large area allowed by spaces 158 and 159 was the exhibit of H. W. Butterworth & Sons Co., of Philadelphia. Here they showed a motor-driven automatic tentering machine equipped with patent clamp chain. This machine was giving a demonstration of the indestructible 4-inch automatic clamp. Attached to the machine was a Kay & Foxwell patent guider, operated by air pressure, for guiding the cloth into the clamps automatically, doing away with any human agency at the feeding end of the machine; also a Simpson winder which automatically cuts off the goods while winding, thus doing away with the necessity of stopping the machine to change rolls. Harry W. Butterworth was in attendance part of the week, as was A. C. Freeman, Thos. W. France and W. S. Rowley.

C. P. Delahunty, of the Delahunty Dyeing Machine Co., Pittston, Pa., showed in space 151b the exhibit of the Elton Cop Dyeing Co., Bury, England, for which they are the agents in the United States. This consisted of dyed cotton warp on special beams, also cloth made from warp dyed on these beams. The colors used were indigo, indanthrene and sulphur colors. They also had a Draper warping machine with a patent density controlling apparatus which controls the density of the warp as it is being wound on the beam or dyeing cylinder before dyeing. Some warps for certain colors have to be wound harder than others and this machine has been successful in giving results which insure uniform dyeing all the way through the warp. At the exhibit with Mr. Delahunty was John Brandwood, managing director of the Elton Cop Dyeing Co., who came over from England especially to attend the machinery show; also Thomas Brandwood, a brother of John Brandwood, and James McIntyre, of Bury, England.

F. T. Walsh, the manager and resident partner of Thomas Leyland & Co., Readville, Miss., was in attendance at the exhibit of this company in space 51 practically the entire week. While this company was showing a line of cloth finishing machinery, including an expander, scutcher and portable piece end sewing machine, Mr. Walsh explained that the organization of Thomas Leyland & Co. consists of several departments: They are importers of gums, dextrines, tapioca flours, sago flours, starches, finishing gums, mordants, lappings, blankets, doctors, files, gravers, polishing stones and similar calico printers' supplies. They deal in corn, potato and wheat starches and other similar materials which are used by the textile manufacturer, paste makers, envelope manufacturers and allied trades.

The works at Readville manufactures gums, dextrines, finishing gums, soluble starches, mordants, acetate of chrome, soluble oils, alizarine assistants, turkey red oils, softeners, and sizes for use in the textile industries. Inasmuch as Mr. Walsh has had a wide experience in the textile industry, having prior to his connection with the present firm been engaged in calico printing and bleaching, his personal advice is eagerly sought after by those mill men who are familiar with his accomplishments. One Southern concern that continuously had trouble in the slashing department obtained absolute relief by using one of the gums made by this company as a constituent in its mixtures. This firm also has an enviable reputation for the quality of their goods and for fair dealing with the trade. Clarence H. Ochs, who frequently visits the South in the interest of this company, was also in attendance.

Forty-three years in the continuous manufacture of belting is the record of H. H. Gallup, whose portrait the photographer secured as he sat in his office chair at Norwich, Conn., still the active manager, not only of the business of the Norwich Belting Comany, but also connected with many other lines. A native of Connecticut, in 1873 Mr. Gallup and associates purchased from the estate of Chas. N. Farnum the plant that was the beginning of the Norwich Belting Company. Mr. Gallup is also president of the Crescent Fire Arms Co., at Norwich, president of the New London County Mutual Fire Insurance Co., Norwich; president of the Smith Granite Co., at Westerly, R. I., and vice-president of the Chelsea Savings Bank at Norwich. From 1901 to 1905 he served the state of Connecticut as treasurer and now, although advancing in years, he is as active as many a younger man.

Mr. Gallup was personally present at the exhibit of the Norwich Belting Co., at space 74, where they were showing a line of belting, including Unitan, water and steam proof belt. Unitan, cone, stripper and motor belts, also chrone and regular oak tanned belts. They showed belts in actual operation, also tanned belting stock before it is cut and when ready to be made into belting. Lace leather and belt cement, and in fact everything pertaining to the different

lines of belting which they manufacture. The exhibit was in charge of A. F. Kelley, manager of the Providence branch, assisted by Messrs. Wheeler and Reddy.

Elliott A. Allen, the textile expert of the S. K. F. Ball Bearing Company, Hartford, Conn., has blossomed into a poultry fancier. He insists, however, that he prefers his chickens young, which, in the eyes of our artist means not yet ready for the pony ballet. Mr. Allen was very much in evidence around space 130, where numerous examples of the application of S. K. F. ball bearings were in evidence.

A novel exhibition was one of the largest bearings made, as well as one of the smallest ball bearings made, and the intermediate sizes, which took the form of a pedestal. This showed a range of bearing sizes, which was a unique feature of the exhibition. Among the ball bearing applications taken from the various machine manufacturers, were ball bearing twister spindles of Fales & Jenks, beater boxes of H. & B. American Co., Saco-Lowell Shops and Hubbard Machine Co., and vertical opener step bearings of Saco-Lowell. A frame containing S. K. F. ball bearing hangers arranged so that one of the shafts could be sprung out of line to indicate the self-aligning feature of S. K. F. ball bearing hangers was also shown. This exhibit was running and was so arranged that visitors could test out the self-aligning feature of the bearings for themselves.

One of the unique features of the exhibit was an album containing photographs of prominent textile engineers, together with letters from them telling of the advantages of ball bearings on textile machinery. Evidence of this character has never been collected before and was most convincing.

Besides Mr. Allen, the S. K. F. Company was represented by Arthur V. Farr, advertising manager; B. G. Prytz, president; R. E. Patterson, S. B. Taylor, T. H. Dessez, C. L. Drake, L. L. Nakashian, A. G. Norris and Southern Representative F. V. L. Smith, of Atlanta.

John D. Street, the well known manufacturing expert and doctor for sick textile finishing plants, was in charge of space 127, representing George A. Cutter, sales agent, successor to the Cell Drier Machine Co., Taunton, Mass. A double stack cell drier was on exhibit and attention was also being called to their slasher cells, which are intended to increase the efficiency of slashers on heavy work. This concern also markets glazed earthenware jig rolls for dyehouse work.

E. W. Vincent represented the Tolhurst Machine Works of Troy, N. Y., at space 61. The exhibit consisted of the well known Tolhurst extractor of the improved self-balancing type, equipped with a Bryson guard. The guard is light, simple, easily attached, durable and inexpensive. It protects the operator and at the same time permits a clear view of the basket while rotating, allowing a free passage of air and giving maximum extraction to the goods. Southern Agent Fred White of Charlotte was also present part of the time.

The familiar face of F. S. Klebart, general sales manager for The J. B. Ford Co., Wyandotte, Mich., was seen at space 60, where he was exhibiting a large variety of products in the finishing of which Wyandotte textile soda had been used. Among these were linters and hosiery from Georgia and absorbant cotton from South Carolina. John H. Grady, the New England representative, was also present.

The R. G. Jennings Yarn Cleaning Machine Co., of Elmira, N. Y., occupied space 47 and gave a practical demonstration of the value and utility of their device. This device is attached to any make of winder or spooler and in that way cleans the yarn without additional cost for operation. Frank A. Halbert was in charge of the exhibit.

Here is another handsome bachelor from the hills of old New Hampshire. Listen girls! William A. Phinney was born in Manchester just the right number of years ago. He became connected with the S. A. Felton & Son Company of Manchester in 1894 and worked his way up through various positions until after the death of the late D. D. Felton, he was chosen General Manager. He is prominent in the public and social life of the city of Manchester and for a number of years has held positions on the Municipal School Board. He is an active member of the Derryfield club and one of New England's successful manufacturers.

Mr. Phinney was personally present at the exhibit of the S. A. Felton Company at space 1 for several days during the week. They were showing a complete line of mill brushes and presenting visitors with a very serviceable hat brush as a souvenir of the occasion. An interesting feature of their exhibit was a collection of brush materials from all over the world. They showed samples of every kind of hair used in brush making. Other representatives present were Fred D. Willy, H. G. Wyman and T. R. Thirsk.

The Morehead Mfg. Co., of Detroit, Mich., occupied space 15 and exhibited a No. 2 condenser trap, a No. 3 return trap, a No. 21 non-return trap with accessories, a No. 2 receiver, and two types of Morton vacuum breakers.

The Morehead system for coil heating of liquor in dye vats and similar work is a steam saver, amounting to nearly 30 per cent as compared with direct blow of high pressure steam, it also insures a saving in dyes and chemicals for standing kettles, one dips, etc. While the saving effected by the Morehead "Back-to-Boiler" system as applied to cans, spreaders, dryers, etc., is enormous, the most complete economy is obtained in mills where it is also applied to the general mill heating—especially where the mills are heated by direct reduced-pressure steam, by direct or indirect heating coils, by stacks or where water is heated by live steam in special heaters. W. A. Blake, the New England agent; R. C. Gammon, assistant manager, and George U. Ladd, the New England sales manager, were in attendance.

W. W. Sibson, secretary and treasurer of the Philadelphia Drying Machinery Co., of Philadelphia, occupied four spaces with his huge exhibit of drying machines. These consisted of a Hurricane automatic raw stock dryer equipped with automatic feed and suitable for cotton, wool, or other similar loose material; and a truck yarn dryer. These machines were of fireproof construction, the housings being of steel, enclosed with panels of double thick steel sheets, insulated with air cell asbestos. These machines were shown in operation, individual motors furnishing the power. Numerous photographs were shown of their latest improved machinery for dyeing, bleaching,

singeing, conditioning and finishing. E. L. Smith, the New England manager, was also in attendance.

Robert J. Freitag was born in Switzerland 41 years ago. Educated at Zurich Technical College, he came to America in 1898 and entered the silk manufacturing business, rising rapidly to the position of manager. When the Steel Heddle Mfg. Co. was formed, it became immediately evident that an expert practical man was necessary to diagnose the weaving troubles and prescribe a remedy. Mr. Freitag was the man for the position and seven years ago he went in with this company, of which he is now the secretary and treasurer.

Mr. Freitag was in personal charge of the exhibit at space 111, where an assortment of heddles and frames was shown, as well as the new cast steel reeds made by this company. However, their space showed only part of the exhibit, as their products were in operation on the looms of the Draper Co., Crompton & Knowles, and the Stafford Co., giving a valuable practical demonstration. It is interesting to note that the exhibits on the part of the loom manufacturers were made voluntarily, which indicates the general satisfaction secured from the heddles and frames. Assisting Mr. Freitag at the exhibit was J. H. Hill of Providence, the Eastern representative.

Arthur Whitman Harris, the popular Southern representative of the American Warp Drawing Machine Co., with offices in the Hurt Building, Atlanta, was at the show with bells on. Wedding bells, by heck! He was so busy receiving the congratulations of his many friends that Manager Hathaway had to have a number of assistants present to explain and demonstrate the machines. However, despite Arthur's becoming modesty and the stray grains of rice that would occasionally make their appearance, there was no one at the show looking more pleased, unless it was Manager Hathaway himself. Mr. Harris is a native of Massachusetts and about ten years ago he entered the employ of the American Warp Drawing Machine Co., in the factory at Dorchester, Mass. There he acquired an intimate knowledge of the mechanism of the machines. He was Eastern inspector for two years and then went to Europe to install the first foreign machines, remaining three years. Returning to this country, he was sent to Atlanta to take charge of the growing Southern business.

The exhibit of this company was in spaces 145 to 147. A double beam warp drawing machine, which was shown for the first time, was working on a complicated 4-harness pattern draft. This machine will handle six cotton harnesses, the reed and three banks of drop wires, and in a general way is constructed along the lines of the standard types of warp drawing machines. The exhibit also included a style A lease picking machine and a style Q plain two harness warp drawing machine.

Present during a part of the week were C. D. Lanning, president, E. F. Hathaway, vice-president and general manager, and Charles M. Mars.

Birch Bros., Somerville, Mass., had an exhibit in space 148, where they were showing Coronation sewing machines, Excel sewing machines, single roll scutchers, angular guides, conical openers, adjustable spiral opening rollers, mangle rolls and a composition spiral roller for scutchers. Albert Birch and Harold W. Birch were in attendance.

In some lines of business whiskers are an asset. The gentleman depicted herewith was a firm believer in the feather duster form of hirsute adornment. He appreciated the idiosyncrasy of the American people that will make a presidential possibility of a man because he has the nerve to appear in public with his face looking as if it had a well developed set of roots, but had never been transplanted. The friends of Jim Slosson will at once recognize this likeness, particularly those with whom he had dealings during the six years that he sold machinery to the cement trade. Jim told a friend in confidence that he cultivated those whiskers to overcome his naturally youthful appearance, and those who saw him at the show could hardly believe him to be the same man. There is a reason for this. When Jim became James S. Slosson, vice-president and general manager of the Dicks, Slosson Co,. Inc., 302 Broadway, New York, who are the Northern agents for Normalair humidifiers in the northern tier of states from Illinois eastward, and including New England and Canada, he found those whiskers a detriment. In demonstrating the Normalair device it developed that the whiskers would gather moisture even as the grass gathers dew, and while in this condition they could be very conveniently utilized as a floor sprinkler, the continued dampness was so inconvenient in other ways that he decided to part with them forever. This is the true story of his particularly youthful and genial appearance at the Normalair exhibit at space 71. This exhibit was crowded from the beginning of the show with mill men who were attracted not only by the unique device he was demonstrating, but also by his charming personality.

The Normalair humidifier is unique in that each head is a separate individual plant. They may be easily and quickly installed and as easily removed to some other location or building. A very complete illustrated description of this device was published in COTTON for January 1916 in an article on humidifying. Briefly, the water enters and passes into the regulator chamber. From here, while the automatic control permits, it flows directly to the center of a rapidly revolving disc from which it is thrown by centrifugal force against the teeth of a copper grid at the circumference of the disc, where it is pulverized. All that is sufficiently fine to float around the edge of the case is caught in the blast from the fan, and is thus evenly distributed throughout the room. The deflector is in the regulator chamber. When atmospheric conditions require, it deflects the entering water into the overflow. Each Normalair humidifier is equipped with an automatic humidity control, for preventing the production of too much water vapor, and keep the relative humidity of the room within a very few points of the desired percentage. This control is easily set, and at any setting it is said to be sensitive, positive, reliable, and accurate in its regulation of relative humidity through a wide range of temperature. Normalar humidificers are small, compact, and easily installed. Their power consumption of ⅛ horsepower each is very low for the results obtained. They require no attention save occasional cleaning, and they can be cleaned while running. Their ball bearings are packed with grease which should be renewed about once a year. They may be mounted on the wall or columns of a room, or suspended from the ceiling, and are equipped with electric motors to suit the purchaser's cur-

rent, or with a pulley for belt drive. The Southern office and factory is located at Winston-Salem, N. C.

The display of the Lyons Mfg. Co. of Fitchburg, Mass., was at space 66, where they were showing their five head power bobbin cleaning machine. In addition to this, the company had in operation a Draper No. E spooler equipped with the Bishop tension device for spooling filling wind warp yarns. The device is really a combination of bobbin holder and tension device with an adjustment tension arrangement somewhat new. Alfred B. Cate and Eben C. Willey were in attendance.

Ralph P. Champney, chief engineer, C. O. Streeter, assistant engineer, and R. C. Moore, advertising manager, were all in attendance at space 91, which contained the exhibit of the Graton & Knight Mfg. Co., Worcester, Mass. This is why no illustration is used. They are all handsome men, and the strain of selecting the one and later having to meet the two others proved too much for overtaxed nerves. Wisdom is said to be better than great riches. The Graton & Knight Company are known throughout the country as specialists in textile belting. They not only have a special corps of engineers to make a study of the special conditions governing a customer's plant, but they have an immense factory behind their product, from which this engineering force may secure the co-operation necessary to produce exactly the right quality of belt for the very best of results. Belt quality and the right belt for the work are the hobbies of the men at the head of this organization.

The gold medal at the Panama-Pacific Exposition was awarded to this company and the exhibit in Boston contained some of the features of the San Francisco display. This included a large 82-inch 3 ply oak tanned leather belt, used for main engine drive, and two pyramids 10 feet high of oak tanned double belts in various widths, from 6 to 24 inches. Other features were an exhibition rack showing special textile belts, including 12-inch motor drive belts, 2-inch single loom belts, 2-inch single and light double cone belts and 3-inch spinning frame belts. Textile leather specialties were prominently displayed in a large panel, the center of which was a large picture of the Graton & Knight works, showing the new power house and other enlargements which have doubled the productive capacity. Various types of V belting for transmission purposes were shown, including Spartan block type and G. & K., M. L., and F. M. L. types of V belt. A demonstrating multiple drive unit for looms showed the operation of two looms by one motor, using one-inch Spartan block type V belts. This unit was developed to meet the requirements for a positive drive with a flexible link between the constant speed driving element and the driven machine, and it was explained, has advantages in economical first cost, ease of adjustment and installation, floor space, etc. The momentum of the belt wheel members compensating for the sudden changes of load and allowing the single motor to get over the peaks without difficulty. This multiple drive unit is the invention of Ralph P. Champney, the chief engineer of the company. A number of trial installations are going into Southern mills at the present time, which will probably be heard from later.

Others present at the exhibit included F. H. Welland, assistant general manager, A. M. Whittem, Boston manager, F. W. Goodrich, belt factory superintendent, W. A. Place, sales manager, F. H. Sawyer, Fall River manager, W. F. Hooker, E. J. Gardner, G. G. Bowan and E. H. Daniels.

Edwin H. Marble took personal charge of the exhibit of Curtis & Marble, Worcester, Mass., which was located at space 92. In this exhibit was shown a motor driven double cutter woolen shear in operation on woolen cloth, showing improvements which have been made on these machines in the last few years. A collection of photographs of their large line of finishing machinery for cotton, woolen, worsted and felt goods, carpets, rugs, plushes, velvets, corduroys, etc., was prominently displayed and attracted the attention of many visitors. A unique little circular was distributed showing copy of an advertisement run by Albert Curtis from 1838 to 1863 and giving the present lines manufactured by the concern. In addition to Mr. Marble there were present during the week a number of representatives from the factory at Worcester, including Mr. and Mrs. George Marble and Fred C. Bryant.

The Draper Company of Hopedale, Mass., occupied their usual position in spaces 137 to 144, inclusive, which was effectively arranged to properly display several types of Northrup automatic looms. The railings surrounding their exhibit were of special design, as were the lighting arrangements and signs, all of which made a very attractive setting for the eight Northrup looms and other machinery shown. In detail the exhibit was as follows:

One 40-inch model for fine goods, arranged with battery for 6¾-inch cops, high roll worm take up with cut gearing, Roper let off with cut gearing, pipe whip roll with Durkin thin place preventers, double fork, feeler and thread cutter, single thread 4 bank warp stop motion, using light single thread drop wire, roll and shaft top for 2 shade and 4¼-inch double roll Dutcher temple. One 36-inch E model loom, with battery for 8¾-inch bobbin, high roll spur gear take up, single thread warp stop motion, regular drop wire, 8-shade patent spring top and other improvements. A 36-inch P model loom, with new battery for 8¾-inch bobbin. A 36-inch K model dobby loom with a 20-harness Crompton & Knowles, Stafford pattern dobby. One 90-inch L model loom on wide sheetings. A 40-inch E model loom of the standard variety made by this company for sheetings and prints. One 28-inch E model terry towel loom, arranged with battery for 8-inch bobbins, high roll Nutting worm take up with cut gearing, Roper let off with cut gearing, regular whip roll, double fork, feeler and thread cutter, special roll and shaft top motion, with Crompton & Knowles terry multiplier, the upper beams being controlled by special friction arrangement with hanging weights. Also a 30-inch E model steel harness loom, with battery for 8-inch slabbed butt bobbins. All of these looms are arranged to be driven with individual motors of General Electric make. They also showed a Moscrop patent single thread yarn tester. This was a regular machine with full set of springs for testing various sizes of yarn and arranged to drive from individual motor of 1/10th horsepower. An H model twister with 40 spindles, 3½-inch space, 2½-inch ring, one side arranged for wet twist, the other for dry twist, with a Rhoades patent knotted yarn device, and other improvements. An L model tape drive spooler of 40 spindles, 4¾-inch gauge, 6-inch traverse. Part of each side of this spooler was arranged with

the regular Rhoades and part with center draw bobbin holders. Part of each side was arranged with improved Northrop, MacColl and Lawrence spooler guides. There were side boxes on one side of the spooler and shelves on the other. Macrodie fiber head spools were used on this spooler, which was driven with individual motor.

There were four models of warpers shown, one F model for fine yarns, one I model for coarse yarns, one G model with fluted cylinder, and one G model warper and balling machine. A Morrill patent slasher comb, a Rhoades patent double dent slasher comb, and a display board showing samples of various sizes of spinning and twister rings, spindles of several types, Lawrence, improved Northup and McCall spooler guides, Duckworth traveler boxes with travelers, shuttles of various sizes and types, and cop spindles. In attendance were the following officers and representatives: President Frank J. Dutcher, W. R. Stimson, agent, B. H. Briscoe Draper, assistant agent, Dana Osgood, W. S. Pepperell, P. C. Wentworth, Henry Whalon, E. C. Openshaw, Wm. Haynes, C. H. Warren, Peter Quinn and Mr. Forster.

Frederick H. Bishop, president of the Textile Exhibitors' Association and secretary of the Universal Winding Company, 95 South street, Boston, was in personal charge at the interesting display made by this company. The space occupied was the same as that in 1914, but was entirely changed in character, being a good illustration of the great advance made in new machines and appliances in the textile industry during the two years which have elapsed since the last exhibition. The Universal Winding Company is rapidly approaching a position in the markets of the world which gives the name of the company its full significance, as the machines which they now manufacture cover practically every class of winding done in textile mills, not only for the market, but for the process of manufacture.

The new doubling machine for winding yarns preparatory to twisting introduces an entirely new method of winding and is designed with special reference to the most economical handling of the yarn.

The new magazine warp creel has a capacity of from 2½ to 3 times the ordinary creel in yarn speed, and from 4 to 5 times the capacity, as there is no stopping the creel for doffing the empty cones.

The Universal Winding Company reports that the direct orders placed far exceed in volume those secured at any previous textile exhibition and that the attendance of practical mill men and the interest shown by them will be of great value in laying the foundation for future business. Among other representatives present was Frederick Jackson, the Southern agent, with offices at Charlotte, N. C., as well as Robert Leeson, the treasurer, who visited the exhibit on several occasions during the week.

Allen Manufacturing Co., Hartford, Conn., had an exhibit in space 316. C. H. Parks was in charge, showing the safety set screws, socket cap screws, and tap extensions manufactured by this company. The set screws formed the most important part of the exhibit on account of their safety feature. The socket cap screws are a big improvement over the old slotted screws, because of their superior strength, and they can be set up hard and loosened as often as desired without marring the head.

This picture has a history. While it is impossible to vouch for the authenticity of the story, originating as it did among more or less interested persons, in Boston and Worcester, it is quite probable that those who visited the exhibit of the Toledo Scale Co., at space 19, will draw their own conclusions.

H. C. Berry and W. A. Moulton are known in New England as heavy capacity salesmen. This is a technical term meaning that they sell heavy capacity scales and has nothing to do with the picture—not directly. Neither has the fact that both men will be members of the 100 per cent club of the company for 1916. What is more to the point is, that it recently became necessary for these two men to go to Worcester to install a large abbatoir scale in the refrigerator of Armour & Company. Therefore, Mr. Moulton trundled around to the Boston office in his Maxwell jitney and there collected Mr. Berry and his bags of golf clubs, for, be it known, Mr. Berry is the official golf expert of the Toledo Scale Co., for New England. While they were away on this mission, a report reached the Boston office and was actively circulated therein, that both men had been arrested for being found in the refrigerator with undressed chickens. In order to repudiate this accusation Messrs. Moulton and Berry jointly drew the pen sketch shown herewith, which they say is a truly representative portrait of the chickens. However, as already stated, conclusions will no doubt be drawn by those who noted the popularity of the gentlemen at the exhibit, where automatic scales, including dormant, portable, hanging lap and counter lines were shown, including cloth room scales, picker room scales and fine checking scales for yarns or dyestuffs.

In addition to Messrs. Moulton and Berry, there was present at the exhibit District Manager J. J. Quinn, Boston Office Manager W. E. Phinney and Fred White.

The Screw Machine Products Corporation of Providence, R. I., is placing on the market a new interior telephone service known as the Select-o-phone. The system of design is by an engineer of long experience and a thorough personal knowledge of all present day methods of inter-communication. This device has passed the experimental stage, for the complete service has been installed and in operation for a year at the plant of the Metal Products Corporation in Providence. This device was being demonstrated in space 336. In operation the Select-o-phone switch board is automatic. Three wires radiate from the central station to each instrument installed, and any station can call any other station simply by turning a small dial on the telephone base to the number desired. The connection and ring are automatic as soon as the receiver is lifted. One important feature of the Select-o-phone is the general call by means of which the party wanted is reached immediately wherever he may be in the plant. The dial is moved to general call and a signal sounded throughout the plant, hearing which, the party answers from the nearest station.

Should an executive desire a conference, he calls the parties wanted in conference and asks them to connect at the conference point, and by connecting his own instrument also he has an immediate conference without calling any man away from his department, and without wasting any

time waiting for the men to walk from their office to his. While the conference is in progress no one can get the executive on the line, as any attempt to ring his number gives them the "busy" signal. New stations may be added to the Select-o-phone system from time to time, as desired, without disturbing any of the previous wiring. Many special features were demonstrated by the several representatives of the company present.

Nineteen years ago, on a misty April morning the manager of the destinies of The B. F. Goodrich Company 'phoned the local newspaper office at Akron, Ohio, and asked, "Have you a bright young man whom you could recommend to write advertisements?" This was opportunity knocking at the door of a promising young Easterner, who, besides being "young and promising," was also wideawake and efficient. He didn't give the fickle goddess of fortune a chance to change her mind. Neither did he give the Goodrich manager time to reconsider his determination to hire an advertising man. He reached the Goodrich factory almost before they'd had a chance to hang the receiver back on the hook after calling up his paper. This is a personal story of E. C. Tibbitts, who on the 7th of last April concluded his nineteenth year as the one and only Advertising Manager which The B. F. Goodrich Co. has ever had.

The growth of The B. F. Goodrich Co., which is the largest rubber factory in the world and produces over 20,000 different articles of rubber, including auto, motorcycle, bicycle, truck and carriage tires, hose, belting, packing, molded goods, raincoats, boots and shoes, water-bottles, and in fact "everything in rubber," is largely attributed to its progressive advertising policies. In fair weather or foul, Goodrich advertising has stood forth as prominently and continuously as Gibraltar.

"The Pulse of the Plant" was shown at space 49, where Henry L. Scott & Co., of Providence, R. I., exhibited a complete line of yarn and cloth testing machines, four of which were absolutely new, never having been exhibited or offered for sale. These machines, with a large tire fabric tester, were the features of this exhibit. The new machines are single strand testers, ranging in capacity from 10 pounds to 50 pounds, operated by hand power. Like all other Scott testers, these machines are constructed on the dead weight principle and have no springs or delicate parts to require attention or adjustment, and they are mounted upon oak back boards for fastening to the wall. The electrically driven machine was especially interesting, as it is the first time the electric drive has been applied to a single thread testing machine. The tire fabric tester was of the horizontal type, convenient for heavy work and so constructed as to have all parts in full view and easily accessible. These parts are protected, however, making it impossible for the samples to catch or the operator to be injured. Among other testing machines shown were the automatic power yarn tester, automatic power cloth tester, combination automatic power yarn and cloth tester which is in use in three different departments of the U. S. Government, an examining machine for yarn inspectors, a motor driven universal tester, developed for the U. S. Navy Department, and a line of reels, scales, measuring reels, twist counters, etc. Henry L. Scott, David C. Scott and H. A. Hopkins were in attendance.

Curtis Hussey Veeder, mechanical engineer and the inventor of many standard instruments, was born January 31st, 1862, at Allegheny, Pa. The Veeder family is of Dutch ancestry, and a descendant of Simon Volkertse Veeder, who came from Holland and settled in Schnectady, N. Y., in 1662. Mr. Veeder was educated at the high school of Plattsburg, N. Y., from which institution he graduated in 1881. His earnings began in a horse nail factory at Plattsburg. He then attended the Lehigh University and took the degree of M. E. in 1886, after which he entered the employ of the Weed Sewing Machine Co. (The Pope Mfg. Co.). In October, 1886, he resigned in order to become chief draughtsman in the Calumet & Hecla Mining Co., in Michigan, where he remained unitl 1889. Mr. Veeder then entered the electrical business with Thompson-Houston Co., in their Boston office, from which he went to their Lynn, Mass., plant to enter the draughting department. In September, 1894, he went with the Hartford Cycle Co., as assistant to the superintendent. Mr. Veeder having designed a cyclometer, he organized (together with Mr. D. J. Post) a company for its manufacture, and during the first season the company turned out about fifty thousand of the cyclometers. In 1897, Mr. Veeder built the plant of the Veeder Manufacturing Co., at Hartford, Conn., and during that year 218,000 cyclometers were delivered. In 1906, he built their new office building, and in 1912 he doubled the capacity of the factory building, adding new fireproof wings, etc.

In 1898 the Veeder Company began the manufacture of counters, at first using a modification of the cyclometer. It has continually developed this mechanical counter line, until at present it probably manufactures more varieties of counters than any other concern. Mr. Veeder is the president of the Veeder Mfg. Co., and it is worthy of mention that he has taken out 32 United States patents and 43 foreign patents. This company had an exhibit at space 151a, where they were showing a variety of counters for thread winding and textile machinery, as well as for other purposes. Some of the counters exhibited were the loom pick counter; hank counter for roving, drawing, ring frame and mule spinning; lineal measuring counter; set back counter; thread measuring counters; sewing machines stitch counter; clutch speed counter; set back hand tally counter. The exhibit was in the personal charge of Assistant Secretary E. B. Smith, assisted by W. C. Waldo and C. A. Rossberg.

William F. Figee was in charge of the unique exhibit of the Spray Engineering Co., of Boston, in the Power Show section. The principal features were a miniature "Spraco" cooling system and a "Spraco" air washer in actual operation. The cooling system consisted of a shallow pond made in imitation of concrete with a single group of five spray nozzles operated by means of a motor driven pump so as to reproduce the actual appearance. The pond was approximately one-sixth of the actual size of a regular installation for cooling circulating water for condensers, gas engine jackets, ammonia condensers, transformers, and other equipment. The air washing and cooling equipment consisted of a miniature "Spraco" air washer complete in every respect like the standard air washers and coolers manufactured by this company in all sizes from 2,000 to

100,000 cubic feet per minute capacity. There were also spray nozzles, lawn sprinklers and other products of the company. Copies of a new booklet showing firms using their products were distributed.

A man of the South, who has been and still is, influential in the development of his Southern country electrically, Albert Milmow of the Industrial Division of the Westinghouse Electric & Mfg. Co., with headquarters at Charlotte, North Carolina, has had a somewhat varied experience. Completing his studies in the public schools of Chattanooga, Tenn., he entered the employ of the General Electric Co., as a student, continuing in the capacity of student and tester until promoted to the production department of the company. Later he was sent to South America, where among the Andes Mountains he installed and operated small plants in connection with the copper, gold and zinc mining companies located in that section. After about a year of this installation work he was sent to Quito, Equador, where he installed additional units in the hydro-electric plant at that city. At this plant he remained as manager and chief engineer for about one year after the installation was completed. Before returning to America he put in upwards of a year in prospecting among the mountains, which work carried him northward into Columbia, southward into Peru and eastward into Brazil.

Returning into this country he continued on the student course with the General Electric Co., for a few months, after which he went to Iloilo in the Philippine Islands, installing there a complete steam and electric plant for operating the local lighting systems in that and surrounding cities. After the installation was completed he remained as operating engineer for a period of eighteen months, and then proceeded to Manila as electrical engineer for the old Spanish company, La Electricista, which operated the lighting plant in the city of Manila. Later when this plant changed hands and came under American management, he returned to the United States and took up sales work with the General Electric Company. In 1906 the General Electric Company transferred Mr. Milmow to Charlotte, where he opened up the local office of that company, the object being to serve the Southern Power Company and the huge territory in that vicinity for electrical development which was being opened up by them. A great deal of pioneer work was done by Mr. Milmow and his associates in the electrification of cotton mills, where electricity as a motive power was at that time almost an unheard of thing. After approximately two years in this employment he went with the Southern Power Company to organize a textile engineering department in connection with the sales department of that company, where he remained for about five years doing the same class of work, that is, designing drives for textile mills, making tests, etc.

Resigning from this position Mr. Milnow engaged in business in his own behalf for a time and then became associated with the Alabama Power Co., in charge of their textile power sales. In Sept., 1915, he entered the employ of the Westinghouse Electric and Mfg. Co., to take charge of sales of Westinghouse apparatus to the textile interests of North and South Carolina. The long line of pioneer experience which has fallen to the lot of Mr. Milmow will make him an especially valuable factor in the further progress of electric drives in cotton mills, particularly in the Southern section where progress of this character is so rapidly making history.

Mr. Milmow was present at the Westinghouse exhibit in space 52, where electrical apparatus manufactured by his company for use in textile mills was shown under the direction of the Boston office. This exhibit included a number of newly developed types of motors for driving textile machinery and the Type C. S. steel frame motors was especially demonstrated. Different highly developed types of control for these motors were also shown as well as the use of ball-bearings in machines of this character, testing meters and other equipment of a similar character was included in the exhibit. In attendance at the exhibit were also F. P. Smith, G. D. Bowne, Jr., S. St. J. Morgan, C. W. Babcock, and J. M. Tomb of the Boston office; J. F. Mann of the New York office; John Gelzer of the Atlanta office; and Brent Wyley, J. S. Henderson, Jr., F. D. Hallock and M. W. Bartmess from the factory at East Pittsburg.

Everyone knows Bob! Bob and bleaching are synonymous. Perhaps it should also be added that Bob's specialty is peroxide bleaching. Robert A. (Bob) Carter is a native of Massachusetts, graduating from the public school of his home town of Reading and later attending the Massachusetts Institute of Technology and the Lowell Textile School where he took courses to perfect himself in textile chemistry and dyeing. Later he was chemist for the Linehan-Newbert Co., overseer of dyeing at the Hyde Park Woolen Mills, chemist for the Monument Mills at Housatonic and then became associated with the Roessler & Hasslacher Chemical Co., of 100 William St., New York City, in their peroxide department as textile chemist and expert. His connection with this company began sixteen years ago, and at that time peroxide was almost an unknown product among manufacturers. Within the years mentioned the use of peroxide bleach has increased materially, necessitating a greatly increased factory for the production of peroxide for bleaching purposes.

Mr. Carter was in charge of the Roessler & Hasslacher exhibit at space 5, but he advised that the situation was still bad so far as deliveries were concerned. His firm had been sold up to capacity for a year past, and the recent loss of their plant seriously affected the manufacture. However, through good management, the Niagara Electro Chemical Co., will have their plant in operation soon, and in fact, he expected shipments to begin during May. However, he advised that it was very uncertain when new business could be taken care of. Also in attendance at the exhibit was C. T. Harding and G. Fairbairn.

Frank C. Risselt, sales manager and promoter of sales, with W. B. Wilshusen, the advertising manager of the Cameron Machine Company, Brooklyn, N. Y., were demonstrating the beneficent results of team work at the exhibit space of this company on the second floor of the exhibit space. This pair of live wires were distributing rolls of surgeons' bandages and serpentine coils with the name of the firm printed thereon as souvenirs, both of these articles being the product of the Cameron winding and slitting machine, which is the only machine manufactured embody-

ing the Cameron principle of slitting material of all descriptions. These machines perform their work equally well upon paper, or textiles.

A. R. Calvo, the general sales manager and textile representative of the Permutit Company of New York, found time among his manifold duties to be present at their interesting exhibit in space 102. Here was shown the usual demonstration of the Permutit process by means of a small glass filter, and manufacturers visiting the exhibit were invited to bring with them a small sample of water from their home plant so it could be absolutely demonstrated to them how completely and effectively a Permutit filter will soften the water. A Permutit filter 24 inches in diameter and 8 feet high, which represented the type of machine installed in textile mills, was also included in the exhibit.

This is a sketch of Churchill Hungerford, as he appeared after his return from a recent fishing trip. He is indicating with his hands the length of the fish he lost. The smile on his face is but a reflection of the smiles on the faces of his hearers. That he feels satisfied with his piscatorial achievements is evident from his placidly contented appearance. That is an indication that he is planning another trip. When Churchill isn't fishing he builds filters. It is quite possible, too, that he also enjoys this part of his business. At any rate, as a member of the firm of Hungerford & Terry, Inc., he designs and builds quite a number of these needful accessories to the textile plant. With offices in the Pennsylvania building, Philadelphia, and a fully equipped laboratory at Woodbury, N. J., he is in a position to render expert opinion and advice on any subject concerning filtration engineering. In his exhibit at spaces 63A and 69B he showed a number of illustrations of plants installed by his firm and distributed descriptive printed matter containing lists of installations he has engineered.

P. J. Smith, Jr., who is a regular attendant at practically all the textile machinery exhibits in the country, and whose face is familiar to the majority of mill men, is a native of Lancaster, Pa. As a young man he learned his trade as a machinist, but his attractive personality won for him a position of salesman with the Merrow Machine Co., of Hartford, Conn., with which firm he was connected for eight years. About four years ago he accepted a similar position with Scott & Williams, Inc., of Boston, and he had charge of their exhibit at space 129, where he was greeting his numerous friends and acquaintances in the trade. The special attraction at this exhibit was the demonstration of the new model K. fashioned welt machine, producing women's hose with an inturned knitted welt similar to that produced on full-fashioned machines. This machine had all the features of other Scott & Williams models, each stocking being dropped from the machine complete, except for the looping of the toe. It was fitted with five yarn changing fingers, inserts an anti-run-back course, and as the welt was knitted on the machine it had all the elasticity of the fabric and could be made as wide as desired. The exhibit also included a half hose machine, making half hose complete, and also a new underwear machine with vibrating dog. A rapid transfer machine was also shown.

Stephen C. Lowe or John Philip Sousa —which? Mr. Lowe's impersonation of the famous band leader at the Copley-Plaza banquet was so well done that friends of both men hesitated before making a decision, particularly was this so with those members located some distance from the stage. Steve was much in evidence around the exhibit of the Whitin Machine Works of Whitinsville, Mass., in spaces 165 to 172. In this big exhibit were a number of machines devoted to woolen and worsted work, but prominently located were several machines for working cotton. Among these was a complete combing equipment showing sliver and ribbon lap machines as well as a model D2 Whitin comber containing a number of new and novel features by means of which it is possible to obtain much closer adjustments, in combination with novel arrangements (patents pending) of settings and timings. By this means the waste percentages are more accurately governed and the cotton more thoroughly cleaned and combed, with a given percentage of waste.

Another interesting machine shown was a tape driven spinning frame for warp, filling and hosiery yarns. This contained 228 Whitin gravity tape driven spindles. A special feature of interest to mill men was the drive on this frame. As is well known, the greatest tension on the yarn occurs when starting the wind on the empty bobbin, and as the bobbin fills up the tension is so much reduced, that without detriment to the yarn and without causing breakages, the frame might be run at a considerably higher speed. This effect was accomplished by employing a General Electric variable speed motor directly connected to the cylinder shaft so that by proper connections with the builder motion the speed of the frame is varied so as to obtain approximately constant yarn tension throughout the doff.

The Whitin-Owen filling feeler and pick finder was another device which attracted much attention

Besides Mr. Lowe, those in attendance included L. M. Keeler, agent, J. C. Cooper, D. O. Pease, J. H. Boyd, R. B. Chace, E. A. Rooney, J. T. Wild, J. F. McGinniss, W. F. Brown and H. A. Owen. Southern Agent Stuart W. Cramer was not present.

J. R. Monroe, president of the Monroe Calculating Machine Company, with general offices in the Woolworth Building, New York, personally visited the show and was at the exhibit of his company on the stage in the main hall, as was H. G. Dechant, general sales manager, also from the New York office. The Monroe calculating machine adds, subtracts, divides and multiplies. It is self-checking and all figures are perfectly visible at every stage of the operation. It is a machine especially adapted to figure textile costs. Suppose, when invoicing, you had this problem:

3741¾ yds. at 4⅛ c = $154.35

Could you find the result—and know it was correct—in 5 or 6 seconds?

When figuring discounts,

542.17 less 5 per cent and 2 per cent = $504.76

Could you find the net—and be sure you were correct—in 5 or 6 seconds?

Suppose, when figuring interest, you met these problems:

758.25 for 21 days at 5 per cent = 2.21
6735.00 for 77 days at 6 per cent = 86.43

Could you get the results of both items in from 15 to 20 seconds?

In compiling cost statistics, suppose you had this problem: Monthly production 185,692 lbs.: Find the cost per pound for each department to 6 decimal places.

| | | |
|---|---|---|
| Carding | $1385.29 | .007460 |
| Spinning | 2033.18 | .010949 |
| Weaving | 2517.02 | .013555 |
| Spooling | 444.53 | .002394 |
| Cloth room | 303.75 | .001636 |
| Slash. and tie | 268.03 | .001443 |
| Eng. and boiler | 531.92 | .002865 |
| | $7483.72 | .040302 |

Could you get the proper amounts for all items in approximately 2 minutes, and be dead sure you were right? Well, that's what the "Monroe" was built for. Boston Sales Manager F. W. Barkley and J. R. Ramsey were in charge of the exhibit. D. A. Henning, the Southern representative, was not in attendance.

As a means of positive identification the thumb print has proven to be unexcelled. It is, therefore, quite certain that when a mill man receives a business card bearing the accompanying reproduction, he will at once recognize it as identifying Richard E. Sumner, a textile sales representative of the Marden, Orth & Hastings Co. of New York and Boston. Mr. Sumner, who is a native of New York and a Yale man, has been with the textile department of the company since its inception. He has an attractive personality and is (at present) unmarried, a condition that will doubtless be non-existant after one or two trips into his Southern territory.

Mr. Sumner was greeting his many textile friends at the unique M. O. H. exhibit at space 77, where a very complete line of dyed yarn skeins in cotton, wool and silk were mounted in cases, illustrating the range of shades from pale lemon yellow through the browns, tans, olives, greens, greys, blues and up to the blacks, which are obtaintable from American-made dyewood extracts, such as quercitron, fustic, sumac, osage orange, cutch, logwood and hematine. Marden, Orth & Hastings Co. are specializing on these products, and they either own, control or are closely interested in five factories for the manufacture of these products and others.

Aurentine paste and powder, one of the M. O. H. specialties, also known as American fustic, is made from the Osage Orange tree, which grows in the Southern and Southwestern states. From these are produced yellows applicable on all fabrics when used in connection with a mordant such as chrome salt D, which is another special product of the M. O. H. Company for cotton dyeing. Ornamental bottles containing samples of the various dyestuffs formed a part of the exhibit, which was in charge of H. G. McKerrow, Shepherd M. Crain of the textile department and Mr. Sumner.

John Montgomery, the works manager of the Woonsocket Machine & Press Co., and J. H. Windle, the Northern sales manager of the combination of textile machinery specialists, were much in evidence around the exhibit of this company at spaces 28 and 34, where a new model 6x3 Woonsocket roving frame, in operation, was being shown for the first time. On this machine in addition to improvements shown in former years such as the Daly chain drive, the Daly compound and the Campbell ball-bearing top rolls, all bobbin and spindle rail gears are inclosed by sheet metal gear cases, and thus are kept free from lint and dust, also reducing the possibility of accidents and fires. They also showed a four-delivery drawing frame and a Harrington & Barrie reverse motion frame cleaner, manufactued by the Fales & Jencks Machine Co. R. L. Cumnock, Jr., of the sales force, was also in attendance.

Adjoining the exhibit just described was that of the Campbell Textile Machinery Co., of Auburn, R. I., in spaces 27 and 33. Here was shown one of the carding machines manufactured by this company illustrating the refinements and improvements which have been made since this organization took over the textile machinery business of the Potter & Johnson Machine Co. H. D. Ballau was in charge.

He was not always fat—Prosperity Soda did it. Horace C. Bramwell is a native of Syracuse, N. Y. As a boy he aspired to become a banker, but later, changed his mind and accepted a position as short-stop on a well known Brooklyn, N. Y., baseball team as the nearest approach possible. Like all well-known baseball players, after making a name for himself in the diamond, he drifted to the stage and missed an operatic career by the narrowest of margins. For several years past he has represented Isaac Winkler & Bro., of Cincinnati, Ohio, selling Prosperity textile soda, and is now as busy as can be explaining to the trade the new and most practical discovery of this company of ammonia combined with soda and known as "Blue Label" prosperity soda. Mr. Bramwell was unable to attend the Boston show, as he was so busy taking orders in various sections of his Southern territory, but his firm was well represented by G. A. Buchanan, the advertising manager from Cincinnati and J. C. Allen, the New England representative, who were in charge of a table display of "Blue Label" prosperity soda. In this soda ammonia is held in suspension in the soda until it discharges on coming in contact with water, thus performing its service as a detergent at the proper time without waste.

The new plant of the Naumkeag Steam Cotton Company at Salem, Mass., is white inside. Perfectly white! In order to accomplish this desirable result, three solid carloads of Hampden mill white were used. Hampden mill white is a mill white paint, made by a company where publicity for its products is never thought of until the product to be marketed has been brought as near as is humanly possible to the point of perfection.

Hampden mill white is manufactured by the Hampden Paint & Chemical Co., Springfield, Mass., and samples of the work done were exhibited at space 530. About 1500 white carnations were given away during the week as souvenirs. The representatives present at the exhibit were R. K. Baker, treasurer, D. M. Baker, B. F. Booth, W. E. French, F. A. Minnerly, and H. E. Jordan.

C. G. Reynolds, the New England sales manager, was in charge of the exhibit of the American Pulley Company of Philadelphia, which was located at space 42. Here were shown some of the various types and sizes of American pulleys and a unique arrangement of them represented a large field cannon ready mounted for service. This was just a hint to the manufacturer that if he was interested in the "preparedness' program, he should not neglect the "industrial preparedness" feature and use American pulleys. J. E. Judd of New York, and A. P. Vialle were also present.

W. T. Lane & Brother, Poughkeepsie, N. Y., exhibited various types of their mill baskets made from canvas at space 86.

Edward A. Sisson, the New England agent for the products of the Keystone Fibre Company of Yorklyn, Del., which were shown at space 84b, has been connected with the mill supply business for a number of years prior to his becoming representative for the Keystone Company. In fact, he has been a salesman in some capacity ever since he left school. He is a native of Massachusetts and well known throughout New England and New York State. Mr. Sisson was to have a photograph made to accompany this sketch, but the severe snowstorm of Friday morning upset his nerve. Those who may receive a call from him will be interested to know that he is a large stout thin man, with a heavy black beard closely shaven. He may be easily recognized by his appetite, which he always has with him. Among the Keystone products at the exhibit, he was demonstrating the Peerless seamless and standard riveted roving cans, store and factory cans, warehouse trucks, combination doffing cars, stock boxes, trays and waste baskets all made from Keystone fibre. Manager Daniel D. Howard was also in attendance.

In space 67a the Macrodi Fibre Co. of Woonsocket, R. I., exhibited a line of fibre head warp and package spools.

The Pennsylvania Wire Glass Co., 70 Fifth Avenue, New York, made an interesting display in space 343 of their Aqueduct non-drip skylight glass, which is especially applicable to textile work.

In the early designs of ball bearings the load was carried on a point contact, but it was found in some instances that this had a tendency to cut a raceway and pack the steel owing to the fact that the ball track had no support. The natural evolution was the development of the curved raceway ground at a slightly greater radius than the balls. The Transmission Ball Bearing Co., Inc., 32 Wells street, Buffalo, N. Y., occupied space 134 and exhibited Chapman ball bearings in various forms for power transmission work. Present at the exhibit were W. J. Murray, president; C. M. Murray, secretary and treasurer; H. O. Edwards, manager of the Buffalo factory; E. J. Baechle, eastern district engineer, and A. C. Shroth, the western representative.

The Rhode Island Humidifier and Ventilating Co., Providence, R. I., occupied space 126 where General Manager George W. D'Arcy demonstrated the merits of the Kelly system of humidification. With this system there are no return pipes, all water used being evaporated. The regulation is automatic and in operation air and water are both under pressure.

The Frank Mossberg Co., Attleboro, Mass., in space 72, showed their complete line of all-steel products for the textile trade, including warp beam heads, warp beams complete, steel spools, fiber head spools, bobbins and drop wires.

Alex West wore a white hat. This was symbolical of the Rice's Mill White paint, which he dispenses in goodly quantities in all sections of the country. Mrs. West accompanied Alex to the show this year, but that was not why he wore the white hat. The exhibit of the U. S. Gutta Percha Paint Co., the manufacturers of Rice's Mill White, was located at space 116A, and, besides Alex West, Denny Moore, George Hazard, A. L. Denton and C. A. Foster were also in attendance.

O, yes indeed, this is Elliot Reid. This can be proven by the other members of his church as well as by many of his relatives who were present when he was baptized 46 years ago. He sat for this portrait while made up as a New York policeman at the Hippodrome recently. Elliot is rather proud of that badge. When he was a small boy he always wanted to be sheriff of Westchester county, and now that he has reached an age and standing that would seemingly entitle him to such an honor, he is entirely too busy illuminating the dark factories and domiciles of the American people. This is a large order and will doubtless keep him busy for some little time.

[EDITOR'S NOTE. By the advice of counsel we are not reproducing the original photograph, as we learn that Mr. Reid had no license to impersonate an officer. We are, therefore, depicting him en route to a certain suburban town and it is to be presumed that, in this instance he has arranged for a suitable license.]

At the show he had charge of the exhibit of the Westinghouse Lamp Company of New York, in space 52, where the many types of lamps made by the Westinghouse Company were demonstrated.

A unique feature of the exhibit which was designed by Mr. Reid consisted of a series of eight compartments in a wall cabinet illustrating improper and proper methods of illumination, as follows:

Compartment 1 (upper). This type of lamp (60 watt carbon) is still used by many mills whose managers do not realize that it is an old style inefficient lighting unit that gives *minimum* light at *maximum* cost. Compare this with the Mazda lamp below.

Compartment 1 (lower). This 40 watt Mazda lamp replacing the 60 watt carbon gives nearly *50 per cent more light* and uses *33 1/3 less current*. The quality of light is better and the lamp will last longer than the carbon. Mazda lamps should be used in every mill.

Compartment 2 (upper). Dirty Mazda lamp with dirty steel reflector, 60 watt. Many mills are poorly lighted, not because there are not enough lamps and proper equipment, but because the units are allowed to become dirty so that often as much as 40 per cent of the light is of no use. Notice the difference in the amount of light in this compartment compared with the one below.

Compartment 2 (lower). Clean Mazdo lamp with clean steel reflector, 60 watt. If mill managers and superintendents will arrange for the *systematic cleaning* of lamps and reflectors the lighting system will operate at high efficiency. Otherwise they pay for light they don't get.

Compartment 3 (upper). 100 watt Mazda C without reflector. One cannot have an efficient lighting system with bare lamps. The light of a lamp must be controlled and directed to the plane where it is needed. A lamp used like this wastes money and ruins the eyes of the operatives.

Compartment 3 (lower). 100 watt Mazda C with steel reflector. When a reflector is used that is properly designed the light of the lamp is directed on the work, not on the walls or ceiling or into the eyes of the operatives. Save money and save the eyes of the employees by using light in the right way.

Compartment 4 (upper). 100 watt Mazda C lamp with a steel reflector that is too small. Where a lamp is used with a reflector that is not the right size, a large percentage of the light is wasted because it is not properly redirected to the plane where it is needed. Be sure that the reflectors fit the lamp. See the compartment below.

Compartment 4 (lower). 100 watt Mazda C lamp with a steel reflector of the proper size. The light from this lamp was properly utilized because the reflector was of the proper size. All the light was directed down to the working plane where it was needed.

Many mill men visited this exhibit and studied the practical illustrations of improper and correct lighting methods.

Stuart W. Cramer displayed a striking exhibit of the Cramer system of air conditioning apparatus at space 163. In this exhibit could be seen in operation the several types of Cramer air conditioning machines consisting of central stations, copper fan air conditioners, spray heads, atomizers, and fan ejector humidifiers. This latter type has been recently developed, principally for use in rooms with low ceilings where it has been difficult to obtain satisfactory service with other types of free moisture heads. A special feature of the control of the central station is the refinement of having the sprays connected in relays to produce a gradual change as the conditions demand. There were several types of automatic humidity and temperature regulators being demonstrated, each of which has been developed to meet special requirements. These all operate on the wet and dry bulb psychrometric principle and used neither rags, wicks nor other devices of that character. Another unique feature of the exhibit was several types of Cramer metallic diaphragm valves, the construction of these diaphragms being such that due to the sliding peripheral joints which relieve the strain, the metals do not crystalize and finally crack. The life of these diaphragms has thus been wonderfully increased. The one shown on exhibit and in operation had been operated for over 140,000 times prior to its being placed on exhibit in Boston, and its operation while there was continuous during the operating hours of the exhibit. This exhibit was in charge of Clifton D. Park of the Boston office, assisted by H. B. Rogers and R. C. Miller. Mr. Cramer was unable to be present personally, but Wm. B. Hodge from the home office at Charlotte, took an active part in explaining the various features of the products shown.

Fred H. White of Charlotte, N. C., one of the popular Southern representatives in the textile field, is a native of Maine. He entered the machinery business seventeen years ago with the Saco-Pettee Co., at Biddeford, Maine, with whom he remained for nine years, in various capacities. About eight years ago he entered the employ of the Stafford Company, and represents them in the South as Southern Agent. He has introduced their looms into such plants as the Crystal Springs Bleachery Co., The Erlanger Mills, The Dan River Mills, The Edna Mills, The Pickett Mills, The Mooresville Cotton Mills, and others. Besides representing the Stafford Company in the South, Mr. White also represents the Delahunty Dyeing Machine Co., the Tolhurst Machine Works, C. & G. Sargent Sons Corp., Collins Bros., Machine Shops, Cohoes Iron Foundry & Machine Co., Curtis & Marble Machine Co., The Elton Cop Dyeing Co., the Hubbard Machine Co., and others.

Mr. White was present the larger part of the time at the striking exhibit of the Stafford Co., of Readville, Mass., which, as in former years, was one of the feature exhibits of the show, occupying over 1,000 square feet of floor space and notable for its decorative effects as well as its educational display of modern weaving machinery. The color notes of the decorative scheme this year was fumed oak and green burlap, the posts being ornamented with electroliers of bronze and glass. Even the reading lamps which occupied prominent places on the desks at one end of the exhibit, were of antique hammered copper. A large electric sign probably twenty-five feet in length on the wall back of the exhibit gave a brilliant illumination. Six ideal automatic looms operating under mill conditions were shown making various styles of goods. These included a 40 inch loom on plain sheetings; a towel loom equipped with a two-cylinder dobby; a 36 inch corduroy loom with a special Stafford heavy-type dobby, this dobby having been developed to take the place of side cams; a 74 inch worsted loom with a positive dobby; a loom making pillow tubes; and a fine goods loom operating on lawn of 74 x 68 construction. Some of these looms were operated by individual motors, while others were belt driven. This exhibit was in charge of W. Wood Smith, the sales manager, assisted by Mr. White. Others in attendance were Treasurer, G. B. Erhard, C. W. Lillie, Asst. Treas., and D. C. Dunn, Arthur Kean, and Messrs. Hatch, and MacKay.

Did you see the humming owls? On the second floor of the main hall, next to space 535, sat an old man in a booth selling "World Peace Pins" at five cents each. It was rumored that this man was William Jennings Bryan in disguise. Others affirmed that he was a disciple of Henry Ford, but be that as it may, his business was to sell "peace pins" at five cents a shot, it being advertised by flaring signs that 70 per cent of the receipts was to be distributed among the war sufferers, but no specific use was stated. Symbolical of this peace plan, the booth also contained a cage with two "doves of peace" therein. This cage bore the terse advice to buy a peace pin. On the fourth day of the show, some wag affixed a sign to this cage, in frout of the sign already in place, which read, "In this cage is a pair of humming owls from the South Sea Islands. Hum every ten minutes. Listen!" The crowd congregated. It grew larger. It was a fairly quiet crowd—that is as quiet as a gathering of this kind could be in the same room with 60 looms in operation. Collectivelv it wanted to hear the owls hum. Individually it wanted to see what the old man would do when he discovered the cause of his rapidly growing popularity. The postal laws prevent the presentation of the last act of this episode.

John Hill, the well known textile and mechanical engineer of Atlanta, Ga., was born in Georgia, although of Northern parentage. His father, John Hill, Sr., having been civil and mechanical engineer with the Eagle & Phoenix Mills at Columbus, Ga., from 1872 to 1893. The senior Mr. Hill also designed many Southern cotton mills, including the John P. King Mills at Augusta, the Lane Mills at New Orleans and others, besides being the inventor of the Hill automatic sprinkler. John Hill, Jr., has followed in the worthy footsteps of his father, having been educated in the public schools of Columbus, two years at the University of Georgia and three years at Cornell University, during which time he acquired a thorough grounding in science, civil and mechanical engineering and architecture. Mr. Hill was Southern representative for the Lowell Machine Shop from 1898 to its absorption by other interests in 1911. He has designed, equipped, engineered and handled the erecting of a great many cotton mills. He is now engaged in a general machinery business, handling machinery, equipment and supplies for textile mills and power plants. He also designs and does consulting engineering on the special equipment which he furnishes, appraises mills, adjusts losses and is frequently called upon by his many friends among the textile manufacturers to undertake out-of-the-ordinary jobs which need looking after and for the handling of which he has the necessary scientific and mechanical training, broadened by his wide experience as an engineer. (He claims to be *some* golf player. However, from personal knowledge, we can only give the Scotch verdict—not proven.)

Mr. Hill is Southern agent for the American Moistening Company, the Foster Machine Co., Wm. Firth and others. He was in attendance at all these exhibits, brief descriptions of which follow in order:

The exhibit of the American Moistening Co., 120 Franklin St., Boston, was surmounted by a large whale, which was devised by Treasurer Frank B. Comins and which represented on a large scale the trade mark of the company, this being representative of the first spouter or moistener in action. This whale was arranged to mechanically rise and blow at certain regular intervals, one of the air moistening units of this company being used to produce the spray. This exhibit occupied spaces 25 and 31, and contained examples of the Comins sectional humidifier, as well as fan type, high duty, ventilating type, and atomizer humidifiers. Automatic controllers, air cleaning equipments, cloth dampening machines, spray cooling nozzles and conditioning room apparatus. A portable conditioning room formed the center of the exhibit, which was a source of much interest to visitors. Another feature of the display was the Comins electro psychrometer, which is a portable instrument about 12 inches high that may be conveniently carried about the mill and may be used in making observations or to check up readings from other sources.

At the exhibit of the Foster Machine Co., of Westfield, Mass., in spaces 132 and 149, was shown a doubler for cotton and worsted yarns arranged for 2, 3 and 4 ends and demonstrating the Foster wind for knitting yarn. This produces a special cone shaped package. A system for winding worsted yarns was also shown. The new Precise winding machine, shown for the first time in the double gang style, was one of the especially interesting features of this exhibit. In attendance at this exhibit were J. O. McKeon and T. E. Connor, who demonstrated this interesting group of machines. E. T. Fowler, treasurer and manager of the company, was also present during the week.

The exhibit of William Firth of Boston was at space 114, where a Crighton opener was shown built by Asa Lees & Co., Ltd., England, and equipped with a vertical motor drive designed by Southern Agent John Hill. This machine and its drive was a center of interest among manufacturers from the South where the Crighton opener is being adopted by many. A hopper feeder to use in connection with this opener was also shown, as was the Firth broomless floor sweeper. Manager J. J. Smith and H. Burnham were in attendance.

H. L. Galusha was in charge of the exhibit of the Ryalls Machinery Corp., Charlottesville, Va., at space 542. The exhibit consisted of the Ryalls' reverse spindle motion in operation. While this device was originally designed for mules, the experimental work is nearly completed which will adapt the device for ring spinning frames.

The mustache is supposed to be the absorbing part of this picture. This is inside information. The portrait, all but the mustache, is easily recognizable as Walter R. Hills of the Masury-Young Company of Boston. He acquired the mustache as a disguise while traveling in the South. His posture is particularly characteristic and striking. He doubtless has his eye on a customer for Loom Lubrik, although it may be a golf ball. He has the same satisfied expression that was so patent after his first drive on the Ansley Park links at Atlanta. However, Walter is no repeater. He was, however, in attendance at the big show, having come all the way from Texas to be present and greet his many mill friends.

The General Electric Company's exhibit at spaces 64 and 70 contained a very complete line of textile motors and motor controlling devices, such as are used in the most up-to-date motor driven mills of this country. There was also shown, for the first time, several examples of textile motors of new design not yet on the market. One of these motors had the top half of the stator cut away so that the entire internal construction could be seen. It was arranged to operate at slow speed, under its own power, and formed a unique and attractive feature of the exhibit.

The popular universal four-frame motor was also shown, a 20-horsepower, 1800-revolutions-per-minute motor driven at rated speed by a 1/6-horsepower motor to demonstrate the very small friction and windage losses secured by suitable design and the use of anti-friction bearings.

Another motor of much interest to textile mill men was the variable speed, brush shifting, three-phase motor with push button control, for cloth printing, tenter frames and other textile machinery, requiring a speed range of 3:1 or less, at approximately constant torque. A single phase motor of the same characteristics, with hand control, was also shown.

Several motor starting compensators and a complete line of textile oil switches and enclosed air break switches were attractively displayed.

General Electric apparatus was also used extensively in the spaces of other exhibitors, where approximately 90

motor equipments were to be found in 50 different exhibits. Many of these installations were typical of the best textile mill motor drive practice.

S. B. Paine, manager of the mill power department, Boston, and W. L. Shugg, of the advertising department at Schenectady, were in charge of the exhibit, assisted by the following representatives: J. E. Newton, J. C. Dantzler, E. E. Palmer, F. B. Perry, W. H. Tate, D. Boles, Emil Umtersee, C. A. Chase, and George F. Steele of the Boston office; W. H. Wiley, of Charlotte; D. W. Peabody and H. S. Roberts, of Atlanta; W. J. Dorworth, of Baltimore; C. A. Barr and J. T. Brady, of Philadelphia; C. F. Sloetemyer, of Cincinnati; Wm. McEnerney and J. H. Cull, of New York. President E. W. Rice of New York, and Department Manager A. R. Bush of Schnectady were occasional visitors.

The H. F. Livermore Co., of Boston, Mass., had a general display of loom repair parts for all the standard makes of looms, besides a general supply line, in their exhibit at space 82.

The Litchfield Shuttle Co., of Southbridge, Mass., had a handsome exhibit at space 35. Shuttles and shuttle irons featured this exhibit which presented some of the latest styles manufactured by this company.

Charles F. Underwood, the New England sales agent, was in charge of the exhibit of William Sellers & Co., Inc., Philadelphia, Pa. In this exhibit at space 128 were shown a number of interesting applications of their power transmission devices, among which was a belt tightening carrier for spinning frame group drives.

A popular method of arranging and driving spinning frames and similar machinery is by locating the rows of machines with their driving pulleys facing each other, about 3 feet apart. Centrally, either over this space or under it on the floor below, there is erected a line shaft with one driving pulley for each pair of machines. The belt is returned over carrier pulleys. These carrier pulleys slide on a frame and can be operated and the belt adjusted while the machines are in motion, without in any way interrupting their products. In some cases it is preferable to use one large carrier pulley in place of two small ones, with the same results in running.

The Cling-Surface Co., Buffalo, N. Y., gave a power demonstration in space 101. It consisted of a power-driven demonstrating machine showing the efficiency of belts with Cling-Surface treatment over untreated belts by means of similar belts from a single source of power and arranged to receive similar load, with indicators mounted so that the difference in the transmission efficiency and delivery of power was evident. Charles F. Chase, Eastern manager, was in charge, assisted by George H. Moon.

Jones & Hardy, Inc., of Hudson, N. J., were in space 24 with some new specialties, among which was a spindle band tension controller for mules, and an automatic roll cleaning device.

Upstairs in space 543 was the interesting exhibit of thermometers and temperature control apparatus manufactured by the C. J. Tagliabue Mfg. Co., of Brooklyn, N. Y. It is of interest to note right here that the Tagliabue's began the manufacture of thermometers in Italy more than 140 years ago, and have so successfully continued through this period that today the products of this celebrated factory stand higher than ever before. A. B. Hohman, who was in charge of the exhibit, explained in a thorough manner the value to the mill of an automatic temperature control apparatus for dyestuffs. It is well known that certain dyestuffs become insoluble at certain temperatures, therefore the dye ilquor must be kept below these temperatures until the dye has penetrated the fabric, then brought to a boil to make the color insoluble on the fabric—thus insuring uniformity of shade throughout. Automatic temperature control ensures that only the right amount of steam will be supplied to the dye tubs. No operative, however conscientious and painstaking, can keep the temperature of dyevats at the exact required temperature. The Tagliabue controller stays on the job continuously, no matter how many shifts you work. Furthermore no two dyes have exactly the same dyeing property at the same temperature, nor have dyes of the same chemical group an affinity for the same fiber at the same temperature. Also mixed colors often vary. The well-informed dyer solves these and other difficulties by ascertaining and maintaining the correct *uniform* temperatures by means of automatic controllers.

V. Wichum, the Boston representative and R. S. Mackie were also in attendance.

The D. T. Dudley & Son Co., of Wilkinsonville, Mass., and the Vitreous Shuttle Eye Co., 147 Dorrance street, Providence, jointly occupied space 7, where examples of their products were shown. This exhibit was in charge of D. M. Chase for the former company and H. F. C. Morlock for the latter.

Space 532 was occupied by the American Wringer Company of Woonsocket, R. I., specialists in rubber covered rolls for use on dyeing machines and in other similar work. This company has been making rubber covered rolls for 25 years and has made a special study of them for all purposes, but particularly for textile mills. In attendance at the exhibit were W. E. Brown, R. Vincent Thorpe and Southern Salesman W. H. Theroux.

Wayland Ross was in charge of the exhibit of the Rochester Germicide Company of Rochester, N. Y. He was demonstrating automatic disinfecting appliances, sanitary drinking fountains, soap dispensers, coal tar disinfectants, liquid soaps, spraying fluids, sweeping compounds, paper towels, and many other "Shield Brand" products.

Spaces 112 and 113 were occupied by examples of the product of the General Fire Extinguisher Company of Providence, R. I. The features of the exhibit included a demonstrating cabinet for showing the Grinnell automatic sprinkler in action; the Rector gas heating system; the Hale gas mixer; piping, bends, fittings, etc., and a Nivling size circulating system, which is intended to keep a constant boil of new live size and prevent slack sized warps. A number of representatives from the different offices were present during the week.

The Day Adjustable Bearing Co., Greenwood, S. C., exhibited its device at space 535. This device takes lost motion out of rocker shafts, thereby saving the cost of a new one. It tends to reduce seconds and helps to keep the loom rigid. T. H. Lamar was in charge of the exhibit.

MOORE, STREETER & CO.

# Mill Conditions and Market Reviews.

## Southern Mill Situation.

One of the more interesting developments of the past month from a Southern standpoint, was the optimistic reports made by every one of the community superintendents of the Bradstreet Agency attending the annual meeting in Atlanta, Monday, May 22nd. These men were agreed in the statement that the South today is experiencing an era of prosperity unequalled since the year 1907, and they unanimously forecasted that this era would continue up to and after the conclusion of the European war. These men are the business prophets of the country and they make it their business to meet once each year to discuss and study business conditions.

James E. C. Pedder, superintendent of Bradstreet's southeastern division, explained the prosperity wave in the South, and stated that it was a purely natural one. It is natural by reason of the fact that the South has been serving its own people, while the North and the East and the Middle West have been thriving on a temporary boom due to munition plants and manufacturing establishments working overtime to send merchandise and ammunition to the warring nations in Europe. In his opinion, the Southeastern states will be, in the near future, in the best economic condition of any section of the country. "Our section," he said, "is probably the only one that has not benefited from the war. 'War Brides' probably have enriched individuals, but they have never benefited any section of the country. There is always a reaction to set in. It is inevitable when the war ceases. A most serious proposition will have to be worked out by the North and the East after the war, values will have to be readjusted, vast armies of working men must go back to a lower scale of wages, and tens of thousands will be thrown out of employment. The South is on a safe and sane basis. Its opportunity is golden to continue its great era even after Europe lays down its arms."

Similar optimistic reports came from the superintendents of the agencies in Tampa, and Jacksonville, Fla., while superintendents of local branches in various sections of Georgia ably seconded the remarks of the superintendent of the southeastern division.

John A. Singleton, superintendent of the Bradstreet Agency at Greenville, S. C., gave a similar report in reference to the cotton goods and other textile manufacturing industries in his territory.

The building of new mills and the addition of new machinery throughout the Southern section still continues. Manufacturers in the South were the first to see the approach of good times in cotton manufacturing, and Fuller E. Callaway of LaGrange was the first manufacturer to take advantage of it. This was early in 1915, and since that period and on up to the present date, the new constructions and new additions continue to go up, while old machinery is being replaced by up-to-date machinery and every effort being made to increase production at a lower cost per unit.

That cotton will be comparatively high during the coming season is practically a foregone conclusion, while it is the accepted theory that with the coming of peace, manufacturers may look for a jump in raw cotton prices probably 500 to 700 points over the present market rates.

In an interview with J. E. DOUGLASS, President of the Pioneer Cotton Mills, Guthrie, Oklahoma, he said to COTTON'S representative:

"I have traveled over practically every state west of the Mississippi River within the last six months. I have also traveled in Illinois, a portion of Kentucky, Ohio, Indiana, Michigan and Wisconsin, and I am happy to say that from a manufacturer's standpoint, I have never seen more prosperous conditions than we are enjoying at this time. I do not know of any line that is suffering from the lack of orders, and if they are not getting a profit on their manufactured goods, it is their own fault and the lack of nerve to ask it. For the manufacturer, I think it is one of the greatest clean-ups that he ever had. That is to say, that there is hardly anything in the way of old stock of any kind or character that he is not able to dispose of at the present time. If we will only sit steady in the boat and not rock it and not get too greedy for profit, I can see no reason why this wave of prosperity should not continue, as our trade with other countries is broadening every day."

This is a peep at Middle-West conditions.

AUG. W. SMITH, President of the Woodruff Cotton Mills, Woodruff, S. C., said, in regard to conditions viewed from the standpoint of a manufacturer: "As far as I can see business is in a very satisfactory condition, and I only hope it will last for several years, but as I see it, it all depends upon the outcome of the war. Right at present the mills in this section are running well, the help seem to be thoroughly satisfied, and the mills are making fair profits."

New mills, additions and improvements are noted as follows:

Steele's Mills, Rockingham, N. C., are planning to install 17,000 additional spindles and 400 looms; at this writing they have made no contracts, and have not fully decided upon details. They now have 23,296 spindles and 600 looms, and manufacture print cloths. Robt. L. Steele is president and treasurer.

The Hillside Cotton Mills, LaGrange, Georgia, will build an addition to their weave shed.

A charter has recently been issued to the Marsh Cotton Mills, of Salisbury, N. C., to manufacture cotton towels, cloth, yarns, etc. T. B. Marsh, F. J. Murdoch and T. B. Marsh, Jr., all of Salisbury, are the incorporators.

The Opelika Cotton Mills, Opelika, Alabama, will build a new mill, contracts having been let for machinery and equipment. It is understood that the mills will double the present capacity of 15,000 spindles, and sufficient separate buildings will be erected for weaving the entire product of the mills. They will make fine cloth. M. M. McCall is president and manager.

W. T. Rankin and associates, of Gastonia, N. C., will

build a new 6,000 or 7,000 spindle mill, and are now contracting for necessary machinery and equipment. Mr. Rankin has until recently been manager of the Ozark Mill of Gastonia, and is out as a result of the change in ownership of a large block of stock in that corporation. He and associates have applied for charter for the new mill, and as soon as this is received the organization will be perfected and active work begun on the buildings. They will manufacture fine yarns. This will be Gastonia's nineteenth cotton mill. The name of the new mill will be the Osceola Mills, Inc., and the directors are R. L. Stowe, A. E. Moore, W. W. Glenn, T. W. Wilson and W. T. Rankin, the latter being president and treasurer. The capital stock is $200,000.

The Peerless Mfg. Co., Lowell, N. C., are planning to double the carding machinery and add about 2,000 spinning spindles and 1,000 twister spindles.

At Maiden, N. C., the Carolina Cotton Mills have been incorporated with a capital stock of $100,000. The incorporators are B. M. Spratt, Jr., W. L. Heffner, J. S. Campbell, W. B. Murray and S. L. Williams.

The Statesville Cotton Mills, Statesville, N. C., will increase their spindleage from 10,000 to 13,200, they having arranged to take over the machinery contracted for by Messrs. Miller & Kaneer, the latter having abandoned their new mill project. The directors of the Statesville Cotton Mill have decided to sell $50,000 worth of preferred stock with which to pay for the new machinery.

W. W. Glenn, of Gastonia, has recently purchased a half interest in the Tuskegee Cotton Mill at Mt. Holly, N. C., and has assumed the position of secretary and treasurer of the mill. New machinery will be installed at an early date.

The Groves Mfg. Co., has been organized at Gastonia, N. C., to manufacture cloths, yarns, etc.; $140,000 of the $300,000 authorized capital stock has been subscribed. L. F. Groves has been most active in the organization of the mill.

At Gulfport, Mississippi, the Skinner Waterproofing Co., has been organized with capitalization of $500,000 by W. A. Skinner and M. R. Bruckner, both of Paducah, Ky. They will install machinery to waterproof fabrics and manufacture these into garments.

S. B. Tanner and K. S. Tanner are preparing to build a new mill at Rutherfordton for the manufacture of cotton yarns. They plan to equip it with 5,440 spinning spindles and 3,168 twister spindles. K. S. Tanner, of Rutherfordton, is in active charge of the new proposition, which will be called the Spencer Mills.

The capital stock of the Locke Cotton Mills Co., Concord, N. C., has been increased to provide for enlargements at the plant. The following officers have been elected: W. A. Erwin, president, Geo. W. Watts, vice-president, and T. V. Terrell, secretary and treasurer. Mr. Terrell will have charge of the plant, coming from the position of manager of the No. 3 mill of the Erwin Cotton Mills Co., at Cooleemee, N. C.

John M. Geer, of Greenville, S. C., acting for himself, individually, has purchased the Mapleeroft Cotton Mill, of Liberty, S. C., at a court sale at Pickens, the purchase price being $100,001. This mill has been in the hands of a receiver since August, 1914. This plant makes yarns and print cloths, and has 11,776 ring spindles and 2,880 twister spindles. Mr. Geer has not yet announced who will be in active charge of the plant.

The Seminole Cotton Mills Co., is the name of Col. C. B. Armstrong's new mill for Gastonia, N. C. The capital stock is $300,000, and is incorporated by C. B. Armstrong, D. M. Jones, A. K. Wright and others. They will build a 6,000 spindle mill to spin No. 50's to 80's cotton yarn.

The Woodlawn Mfg. Co., Mt. Holly, N. C., has let a contract to the Sanitary Engineering Co., of Charlotte, N. C., for the installation of 30 modern sewage disposal outfits to be installed at each of the operatives' houses in their mill village at Mt. Holly.

The Swift Manufacturing Co., Columbus, Ga., Harry L. Williams president, will erect new mill and new warehouse; additional equipment will include 10,000 spindles and automatic looms. Contract for picking, carding and spinning machinery for the new mill has been awarded to Howard & Bullough American Machine Co., Pawtucket, R. I., and contract for automatic looms to the Draper Co., Hopedale, Mass.; this machinery was ordered several months ago, at which time reference to the plans of the company to erect a new mill appeared.

The Wiscasset Mills Co., Albemarle, N. C., has let a contract to the Sanitary Engineering Co., of Charlotte, N. C., for the installation of 50 modern sewage disposal outfits to be installed at the operatives' houses in their village at Albemarle.

Announcement was made from Greenville, S. C., after the meeting of stockholders of Parker Cotton Mills that the Hampton group of eight cotton mills, subsidiaries of the Parker Cotton Mills Company, would be turned over to Lockwood, Green and Company of New York on June 16. The mills are the Granby, Olympia, Richland and Capital City of Columbia; the Wylie of Chester, the Pine Creek of Camden, the Beaver Dam of Edgefield and the Fairfax of Winnsboro. They operate approximately 275,000 spindles. The other subsidiaries of the Parker Company, comprising eight up-state mills, will be reorganized, it was stated.

A decree has been issued in the Montgomery Court in the case of Louise N. Holt and others against the Prattville (Ala.) Cotton Mills Co., under which the mills will be sold to the Holt interests to recover on a mortgage of $62,500. The interest, court cost and attorneys' fees will reach $81,537.

The Fort Mill (S. C.) Manufacturing Co. will add a weave shed in which will be installed automatic Draper looms; building to be erected will be of about same size as that now in use; the latter will be used entirely for carding and spinning machinery; 10,000 spindles will be added. Col. Leroy Springs, Lancaster, S. C., is president.

Amended articles of incorporation have been filed by the Louisville Girth & Blanket Mills, of Louisville, Ky., changing the name to the Semple Manufacturing Company. The capital stock is increased from $30,000 to $50,000. The amendment was signed by V. B., W. M., A. B. and Charles H. Semple, owners of more than two-thirds of the capital stock.

It is stated that the Georgia Cordage Mill, Scottdale, Ga., will install machinery to weave cotton cloth, and equipment to cost about $25,000 has been ordered.

It is reported that the Peerless Manufacturing Company of Lowell, N. C., manufacturers of combed yarns, is

to double its carding machinery. It also will install approximately 3000 additional spindles.

## New England Mill Situation.

New England cotton mills are now working in full on the highest wage scales that have ever prevailed. The last advances went into effect at the end of April and early in May. Even with these high wages being paid operatives are not plentiful. In many cases mills are complaining that looms and other machinery are standing idle awaiting workers. The approach of the warmer weather and the fact that such good wages can be earned will tend to still more hamper production during the summer. This may prove to be a very good preventive against over-production at a time when jobbers and retailers are putting into effect the higher prices that are necessary because of the great advance that has occurred in the costs of goods.

The first steps have been taken toward naming prices on colored goods for spring delivery. One large line of dress ginghams has been offered to the trade to cost not more than a basis of 9½ cents for 27-inch styles.. A year ago these goods were offered at 7½ cents. Another line has been offered to cost not more than 10½ cents, last year's price being 9 cents, with extended discounts. About half the volume of goods offered a year ago will be offered for the coming spring in this instance. The jobbers throughout the country are not yet selling goods of this class on these levels, but many of them have been approximating a price of 9 and 10 cents. It seems likely that the naming of the prices for next year may stimulate the jobbers into getting higher prices for the goods they own.

A great deal of merchandising has been done and is being done by retailers and jobbers this spring without any thought of the cost of replacement. The distributers of goods have been content to get as high a price as they can, thus taking a sure profit and letting the future take care of itself. Some manufacturers of goods have proceeded on the same theory.

The wisdom or unwisdom of this policy will be determined by events of the future. Most New England manufacturers think that the top has been reached for a time on the prices that can be paid for merchandise or secured for merchandise to be made. Others believe that if the general business outlook does not change, because of a change in war conditions, the top on prices for cotton goods is far away. These latter reason that current prices are only regarded high because many of them exceed the high levels of 1907, which was the last boom period in this country. If the foreign demand for merchandise continues, and the purchasing power of the masses in this country continues to grow because of high wages and good crops, these men say the top limit on cloth prices will not be reached until peace comes. There may be a readjustment then, and even that will depend largely on what happens to cotton.

There are a great many cotton goods that are still below the price levels current ten years ago when there was no world war. Others are well up in value, yet this has not been due entirely to domestic demand.

In discussing prices on prints and print cloths, as well as the values current on bleached cottons, a well known New England manufacturer recently pointed out some facts that are unappreciated by buyers in this country, and are imperfectly understood by many manufacturers. Taking the eight months' exports up to the end of February, he stated that the $68,000,000 worth of cotton goods exported, included only a very small percentage of brown sheetings, compared with the very large percentage sent out in the full year of 1905-06, the last previous big year in cotton goods exports. Allowing that the difference in the two totals,—$12,000,000,—is offset by the decreased imports of cottons, it will be apparent that the character of the exports must be taken into consideration in arriving at any fair estimate of the true effect of the export trade upon the domestic cotton goods manufacturing situation.

While Southern mills are probably not sending out as many brown sheetings for export as they did ten years ago, it is well known that Southern goods are being exported in a much larger volume than they were then. Colored goods, bleached cottons, cottons of very heavy weight like duck, etc., are going out of the South in a large way, and there is in addition a very substantial export of Southern knit goods. There are some Southern brown cottons going to Mexico, South America, and other places in larger volume than the trade as a whole is suspecting.

But in addition to what the Southern mills or their selling houses are sending out of the country, New England mills and New England selling agencies are doing a larger export business than they have ever done before. One house that handles no Southern goods did a business of $2,000,000 in exports in 1915, and the largest previous year in exporting was $290,000. Another house is sending out $100,000 monthly to the Argentine alone. A converter handling New England products almost exclusively did $500,000 worth of business with Cuba last year. The Algonquin and American Printing Companies are reported to be doing 25 per cent of their business with foreign countries.

This manufacturer insists that these things indicate the probability of a continued shortage of product for the domestic trade, and it will be a shortage of products actually wanted here. Ten years ago the impetus given to domestic trade by the large China business, was in a measure sympathetic, the effect of it being shown later on when the crash came and it appeared that there were plenty of goods in sight to suggest an overproduction of merchandise for home needs. Such an outcome of the present situation, this manufacturer says, cannot come about, for the goods that are being sold abroad now will not come back as China goods did, and they will not hang over the domestic markets, even if the period of readjustment after the war is longer than men now anticipate that it will be.

There are some other phases of the foreign trade situation talked of in New England that are peculiarly interesting. One is the probability of a much larger trade with Russia after the war. It is certain that the steel and machinery industries feel confident of a huge Russian business to come to this country when peace arrives. The probability that cotton and woolen goods from this country will be welcomed rests on the presumption that this country will be better able to finance its trade in any foreign country it selects than other country in the world, not even excepting Great Britain. Another probability often referred to is that soon after the ending of the war there will come

forward to this country a demand for goods for the Far Eastern countries whose stocks of merchandise have been steadily depleted because of the lack of shipping facilities. China, Red Sea ports, and the Straits Settlements and India will be in need of goods, and will be moderately well able to buy them.

As to the portion of this trade that may come to New England there are varying views, but the facts that are pretty well agreed to are those based on the trade now being done. A great many fine cottons are being exported profitably. If Southern mills are attracted by the opportunities out of the country, New England mills will gain something from the trade that is left over in this country. It will be seen that while some men feel pessimistic concerning the long future, there are others who give reasonable ground for the optimism they express, granting that this country will be the first of all the countries to recover from the financial shock that must follow peace in Europe.

The weavers in New Bedford presented a standard list of prices to be paid for weaving to the manufacturers there in the middle of May. The manufacturers refused to accept it and a strike was threatened. The weavers decided by a vote of 274 to 175, not to strike, a two-thirds vote being requisite. The manufacturers have now appointed a committee to take up the whole question of weavers' wages with the operatives and while no standard list, *a la* Lancashire, will be adopted, friction will be avoided.

There is little to add to the details of the situation as to the full occupation of the mills on old orders. New business for the month was only moderate compared with some recent months. This was a welcomed thing, however, as many manufacturers were glad of the lull because of the opportunity given to get out orders in hand and to prepare for what may be ahead in ease any sudden peace movement gains headway during the summer.

Yarn mills and knitgoods mills were never so well employed and at such profitable prices. Business is being turned down because the required deliveries cannot be made. The costs of manufacture are rising all the while but there is a leeway of profit that is permitting the payment of better dividends than have been distributed in some years. Mill stocks continue to rise and surplus accounts continue to grow.

Bleachers and finishers are trying to catch up with past orders. Some of the job finishers have more spring work ahead than they had last fall when all previous records were broken. The printers continue exceptionally busy trying to catch up with past orders and making ready for the first of the spring runs.

The cotton mill machinery business has never been in such a prosperous condition in so far as orders go. The costs of production have risen in machine shops more rapidly than in cotton mills. Prices for machinery have doubled in some instances yet buyers have been willing to pay what is asked if deliveries can be given. It is stated that the Draper Company has business enough on automatic looms on the books or in sight, when they are ready to take it, to carry the company all through 1917. One of the large loom manufacturing concerns recently told a cotton duck manufacturer that it would not be able to turn out any specialty duck looms during the year 1917, its whole product already being under order into 1918. Offers of foreign business contine.

## Cotton Comment.

BY H. AND B. BEER.

New Orleans, May 20th, 1916.

Reflecting the possibility of a short crop this year owing to the materialization of unfavorable crop weather, which we pointed out in our last review as being likely, cotton has advanced about $5 per bale in value during the past month. Aside of the unfavorable climatic conditions in the South, drouth in the South Atlantic states, temperatures too low in all sections, there were other features that assisted in bringing about the sharp rise in values.

Germany's submission to the demand of the United States to conduct submarine warfare in keeping with international law removed the possibility of a break in relations with that country, unless a ship is sunk without warning. With this disturbing political feature removed, at least for the present, the trade bought with more confidence and there was a revival in the speculative demand, and as offerings of spots and futures were light, the tendency of market was upward.

Throughout the season the trade was counting on the South providing a supply this season of about 14,000,000 bales, made up from last year's crop of about 12,000,000 and the 2,000,000 surplus from the large crop of 1914, but so far the South has only marketed 11,490,000 bales vs. 14,766,000 to even date last season. It is not surprising, therefore, even though exports so far total only 4,790,000 bales against 7,631,000 to corresponding date last year, that spinners found it difficult to obtain their cotton except at advancing prices, due to the firmness with which cotton is held in the interior and at the ports.

Farmers and merchants of the South were aware that domestic and foreign spinners have been making large profits by buying the raw material comparatively cheaper than prices warranted by the high level of prices for cotton goods, and are mindful of the small stocks in Europe and of the urgent need of cotton goods throughout the world. Acting accordingly the South, even at the advance, is offering sparingly of the staple.

In comparison with last year the world's visible supply of American cotton is only 3,204,000 vs. 4,959,000; of foreign 1,486,000 against 1,865,000; of all kinds 4,690,000 compared with 6,824,000.

Of the world's visible supply of American cotton the United States holds 1,847,000, last year 1,840,000, but Europe is in possession of only 1,357,000 vs. 3,119,000 one year ago, of which Liverpool is credited with only 684,000 compared with 1,535,000 last year.

With the new crop report to be late in making a start, especially in the early producing sections of south and southwest Texas, and only a moderate increase of about 10 per cent in the acreage, less fertilizer being used than last year and of a poorer quality, coupled with a larger area covered by the weevil than ever before, it is not surprising to find the market ruling so strong, particularly when it is considered that stocks are so small abroad.

There have been insistent rumors of early peace in Europe, and while there does not seem to be foundation for them at the moment, it must be remembered that the war is now on for nearly two years, and for this reason we are that much nearer the end than when hostilities began.

The failure of the South to market any part of the large surplus of the 1914 crop so far is attributed in part to the claim that a great portion of it is owned by European interests for shipment after the war when ocean rates and war risks are much lower. Most of this cotton, it is said, was purchased around 7 cents, and as it has almost doubled in value, the carrying charges are a secondary consideration, consequently it is not offered for sale.

At the moment the new crop is reported recovering some of the backwardness experienced one month ago, but stands are reported generally unsatisfactory.

## The Yarn Market.

The condition in the yarn market is perhaps unprecedented. Combed yarn is high and going higher. The demand for fine numbers seems to be greater than the supply. Mercerized yarns are in the same class and prices quoted at the convention in Philadelphia were almost unbelievable. Carded knitting yarns continue to sell at high prices with many inquiries. The spinners, however, do not seem disposed to sell very far ahead. The price tendency of carded weaving yarn is upward and the fine numbers are very firm, although the buying has been rather light.

There are some complaints of slowness of delivery of yarns sold at low prices, while high price yarns are delivered promptly, but these are only in isolated cases. Some Southern spinners of single combed yarns are practically out of the market so far as any large quantities are concerned, and those who can take new business for moderately quick delivery have advanced their prices to such a point that dealers say they cannot sell the yarn. Mercerizers are behind in deliveries, and in some cases it is not a case of inability to get the yarn, but a scarcity of operatives to put it on cones. Hosiery manufacturers are clamoring for mercerized yarn, and some of them will pay January prices for small deliveries to fill in between deliveries on their regular contracts. As an example of how these prices are jumping, the quotations on 2-ply combed peeler skeins on April 15th as compared with May 20th prices are as follows: 40's—48 to 50 cents—May prices 53 to 54 cents; 50's—58 to 60 cents—May prices 64 to 65 cents; 60's—67 to 69 cents—May prices 73 to 75 cents; 70's—75 to 78 cents—May prices 85 to 87 cents; 80's—85 to 90 cents—May price 96 to $1.00. When it is remembered that 60's 2-ply combed peeler skeins now selling at 73 to 75 cents sold one year ago at 46 to 50 cents, it will bring a little more vividly to mind the present unusual condition in the yarn market.

The demand for 26's Southern carded cones has been so great that it has not been a difficult matter for the spinners to get their own prices for them. Many dealers have expressed the opinion that Southern cones will sell on the basis of 25 cents for 10's before the year passes, and these dealers are advising their customers to buy now while they have an opportunity.

Yarn salesmen were very active during the convention in Philadelphia, and quite a number of them secured spaces in the exhibit hall where they entertained customers and displayed their wares. One mercerizer who had space in the hall declined to show any samples of yarn mercerized, because he said he was ashamed to have them think he would keep any yarn on hand when he was so far behind with his deliveries.

Following are recent quotations on the Philadelphia market:

**Southern Single Skeins.**

| | | | |
|---|---|---|---|
| 8s | 21 @21½ | 10s | 21½ @22 |
| 14s | 22 @22½ | 16s | 23 |
| 20s | 24½ @25 | 24s | 24 @24½ |
| 26s | 25 | 30s | 31 @31½ |

**Southern Single Warps.**

| | | | |
|---|---|---|---|
| 8 | 21½ @22 | 10s | 22 @22½ |
| 12s | 22½ @23 | 14s | 23 @23½ |
| 16s | 23½ | 20s | 24½ 25 |
| 24s | 25½ | 26s | 26 |

**Carpet and Upholstery Yarns in Skeins.**

| | | | |
|---|---|---|---|
| 8-4 slack | 20½ | 9-4 slack | 21½ @22 |
| 8-3-4 hard twist | 21 | | |

**Southern Two-Ply Skeins.**

| | | | |
|---|---|---|---|
| 8s | 21½ @22 | 10s | 22½ @23 |
| 12s | 23 @23½ | 14s | 23½ @24 |
| 16s | 24 @24½ | 20s | 25½ @26 |
| 24s | 29 | 26s | 29½ @30 |
| 30s | 32 @32½ | 40s | 41½ @42½ |
| 50s | 55½ @56 | | |

**Southern Two-Ply Warps.**

| | | | |
|---|---|---|---|
| 8s | 22 @22½ | 10s | 22½ @23 |
| 12s | 23½ @24 | 14s | 24 @24½ |
| 16s | 24½ @25 | 20s | 26 @26½ |
| 24s | 29 @29½ | 26s | 29½ @30 |
| 30s | 32½ | 40s | 41½ @44 |
| 50s | 56 @57 | | |

**Northern Two-Ply Carded Peeler Skeins.**

| | | | |
|---|---|---|---|
| 20s | 28½ @29 | 24s | 30½ @31 |
| 26s | 31½ @32 | 30s | 34 @34½ |
| 36s | 38 @39 | 40s | 46 @47 |
| 50s | 57 @58 | 60s | 65 @68 |

**Two-Ply Combed Peeler Skeins.**

| | | | |
|---|---|---|---|
| 20s | 36 @37 | 24s | 38 @39 |
| 30s | 43 @46 | 40s | 53 @54 |
| 50s | 64 @65 | 60s | 73 @75 |
| 70s | 85 @87 | 80s | 96 @1.00 |

**Southern Frame Spun Yarn on Cones.**

| | | | |
|---|---|---|---|
| 8s | 21½ | 10s | 22 @23 |
| 12s | 22½ @23½ | 14s | 23 @24 |
| 16s | 23½ @24½ | 18s | 24 @24½ |
| 20s | 24½ @25 | 22s | 25 @25½ |
| 24s | 25½ @26 | 26s | 26 @26½ |
| 30s | 27 @28 | | |

**Northern Mule Spun Carded Yarn on Cones.**

| | | | |
|---|---|---|---|
| 10s | 23½ @24 | 12s | 24 @24½ |
| 14s | 24½ @25 | 16s | 25 @25½ |
| 18s | 25½ @26 | 20s | 26 @26½ |
| 24s | 27½ @28 | 26s | 28 @28½ |
| 30s | 28 @28½ | 40s | 42 |

**Northern Mule Spun Combed Peeler Yarn on Cones.**

| | | | |
|---|---|---|---|
| 10s | 31 @32 | 12s | 31½ @32½ |
| 14s | 32 @33 | 16s | 32½ @33½ |
| 18s | 33 @34 | 20s | 33½ @34½ |
| 22s | 34 @35 | 24s | 34½ @35½ |
| 26s | 35 @36 | 36s | 42 @44 |
| | | 40s | 47 @69 |

A very practical demonstration of the electric storage battery industrial trucks of the Elwell-Parker Electric Company of Cleveland, Ohio, was given just preceding the opening of the show when the demonstrators were assisting in the delivery and placing of exhibits. The ease with which the operators moved through the narrow spaces and rounded close corners attracted the attention of all, and many commendatory remarks were heard. These trucks are made in several sizes and are especially suited to textile mill and warehouse work. J. W. Emery was in charge.

The present dye situation made the exhibit of the Franklin Process Co., of Providence, R. I., in space 65, a point of interest to many visitors. They showed a new model sample machine and a 100-pound machine with standing bath. The compactness and simplicity of construction of these machines, as well as the ease with which they may be operated, was being demonstrated by the representatives present. This exhibit also contained samples of the various kinds of work done in the job dyehouse of this company.

At space 37 the Parks & Woolson Machine Co., of Springfield, Vt., exhibited some of their products. One of the more interesting specialties made by this company is the Kaumagraph trade-marking machine. This process allows any design or inscription to be printed on the cloth in gold, silver, or colors, and is adaptable for any form of textiles, including knit goods.

# COTTON MANUFACTURING.

## Does the Comber Remove Short Fibres?*

BY WILLIAM E. HATCH AND WILLIAM SMITH.†

Let us consider first how the comber acts upon the cotton in addition to removing short fibres. It removes the small bunches, nits, leaf or other foreign matter, which may have passed through the card, straightens out the fibres, and lays them parallel. In straightening out the matted or snarled fibres the comber will break more or less of them, according to their condition as they come to the needles. Some of these broken fibres will pass through with the good fibres, especially those broken by the detaching roll in drawing the fibres through the top comb.

In passing through the machine the front ends of the fibres are combed by the cylinder needles passing through them while the tail ends are held by the nipper. When the combing by the cylinder is finished the top comb drops into the fibres, the detaching roll grips the front ends, which protrude through the comb needles, and draws them forward through the comb. While this is being done the feed roll is feeding forward a small amount of lap (usually about ¼ inch). The nippers being open at this time, the detaching roll draws the long fibres from the tuft held by the feed roll; any fibres which are too short to pass beyond the needles of the top comb are held back by it together with any small bunches, etc. The nipper then closes and carries the tuft of fibre down into the path of the cylinder needles, which comb through it and take out any short fibre not held by the nippers; it also straightens out the long fibres for the next draw. The object of the top comb is to hold back any fibre or other matter not required to pass through to the front of the machine. The object of the cylinder is to remove the short fibre and other matter which were held back by the top comb, and to straighten out the long fibre.

There are several settings or changes which will alter the amount of waste taken out, the principal ones being the position of the top comb and the nippers. The greater the distance from the top comb to the nipper the greater the amount of waste removed and the longer the fibre in the waste. To get the best results in combing, the top comb should be as close to the leather detaching roll as possible without touching, and as close to the segment as possible. The nipper should be set according to the amount of waste required. For high per cent of waste set the nipper wide; for low per cent of waste set close. The distance from top comb to nipper has more effect on the per cent of waste removed than any other setting.

The following tests were made to show the per cent of waste taken out, using different stock, different settings, and different conditions.

The first test was made to show that the comber does remove short fibres. In making the test a good even running cotton, 1½-inch staple, was used, and a certain amount of colored short fibre added. The short fibre was mixed at the lap machine before going to the comber. The colored stock was prepared by running a light lap on the picker, unrolling it and folding it over so as to make a strip 8 inches wide. This was fed at the back of the card, which was geared to make a 25-grain per yard sliver. The trumpet was removed from the front calender rolls and the web run through the width of the rolls, making a thin ribbon about 6 inches wide, weighing 25 grains per yard. This ribbon of colored stock was fed in between two laps on the lap machine or laid on the top of the two laps. In making the lap for the comber two laps weighing 250 grains per yard were doubled together and either one or two thicknesses of the colored stock run in between them or laid on them at regular intervals, running about 1½ yards of white stock, then 1½ yards with the colored mixed in. With one thickness of colored stock there was about 4.75 per cent; with two thicknesses, 9 per cent.

This lap was then run in the Nasmith comber, using the regular settings with the nipper set 8/32 of an inch from the detaching roll. The top comb was set as close to the leather detaching roll as possible without touching, with the points of the needles 1/16 of an inch from the steel detaching roll. The feed rachet was set to take five teeth. The per cent of waste was taken several times while running with this setting, giving the following results:

*Test. No. 1:*

| | |
|---|---|
| Average per cent of waste when running all white, | 7.78 |
| Average per cent of waste with 9 per cent colored between the laps | 14.8 |
| Average per cent of waste with 9 per cent colored laid on top | 15.4 |

This showed an increase of 7.02 per cent waste with the colored stock between the white, and 7.62 per cent with the colored stock laid on top.

*Test No. 2"* The nippers were then changed to 13/32 of an inch and all other settings made the same as on Test No. 1, with the following results:

| | | | |
|---|---|---|---|
| Average per cent all white | | | 12.3 |
| " | " | with 9 per cent colored between. | 18.98 |
| " | " | with 9 per cent colored on top... | 19.5 |
| " | " | with 4.75 per cent colored between | 15.7 |
| " | " | with 4.75 per cent colored on top | 16.5 |

This shows an increase of 6.68 per cent, with 9 per cent colored between; 7.2 per cent with 9 per cent colored on top; 3.4 per cent with 4.75 per cent colored between, and 4.2 per cent with 4.75 per cent colored laid on top.

These tests showed that the per cent of waste was increased in each by the addition of short stock to the lap. In changing from white to mixed the change could easily be seen, the sliver at the front showing a slight bluish cast and the waste changing from white to blue and being much thicker while the colored stock was running through. The color showed in a straight line across the waste as soon as the colored stock passed to the cylinder needles.

The next test, or No. 3, was made by changing the distance from the nipper to the top comb and detaching roll, keeping all other settings the same all through. The first setting was made with the nipper 14/32 of an inch from the detaching roll and then closing up 1/32 of an inch at each test down to 8/32 of an inch, with the following results:

*Read before the National Association of Cotton Manufacturers, Boston, Mass.

†New Bedford Textile School, New Bedford, Mass.

| | | | | |
|---|---|---|---|---|
| Nipper set 14/32 of an inch, average per cent | | | | 17.6 |
| " " 13/32 | " | " | " | 15.87 |
| " " 12/32 | " | " | " | 14.7 |
| " " 11/32 | " | " | " | 13.25 |
| " " 10/32 | " | " | " | 12.06 |
| " " 9/32 | " | " | " | 10.05 |
| " " 8/32 | " | " | " | 7.7 |

This test shows that with the nippers set close the average per cent was 7.7, and without changing the amount of combing the percentage of waste was increased to 17.6 or 9.9 per cent. The only change made in the setting was the distance from nipper to top comb and detaching roll. The waste or noils made with the close setting was practically all short fibre, gradually increasing as the nippers were opened.

Test No. 4 was made by setting the nippers to 8/32 of an inch, the top comb as close to the detaching roll as possible. The per cent of waste was taken several times at this setting, then the nippers were opened to 13/32 of an inch, without resetting the top comb. This kept the top comb at the same distance from the nippers, but farther away from the detaching roll. The per cent was taken several times with this setting; then the comb was set in its correct position, or as near the detaching roll as possible, with the following results:

| | | | | |
|---|---|---|---|---|
| Nipper set to 8/32 of an inch, average per cent | | | | 7.8 |
| " " 13/32 | " | top comb same | | 11. |
| " " 13/32 | " | " | set | 16.5 |

This shows that the distance from the nipper to the top comb has the greater effect on the amount of waste.

Test No. 5 was made by feeding forward different amounts per nip, commencing with four teeth on the feed ratchet, feeding .2 of an inch per nip; then changing to five teeth, or .25 of an inch per nip; then six teeth, or .30 of an inch per nip, with the following results:

| | |
|---|---|
| Feeding four teeth or .2 of an inch per nip, average per cent | 15.07 |
| Feeding five teeth or .25 of an inch per nip, average per cent | 15.6 |
| Feeding six teeth or .30 of an inch per nip, average per cent | 16.26 |

Test No. 6 was made using different top combs, with the following results:

| | |
|---|---|
| Single top combs 28's needles set 55 per inch, average per cent | 18.5 |
| Single top combs 30's needles set 71 per inch, average per cent | 20.65 |
| Single top combs flat needles No. 23 x 29, set 63 per inch | 19.1 |
| Single top combs flat needles No. 21 x 27, set 46 per inch | 17.5 |
| Double top comb 28's needles set 55 per inch | 17. |
| Single same setting | 16.7 |

Test No. 7 was made for strength of yarn with nippers set close, taking out a low per cent of waste, and set wide, taking out a high per cent, with the following results:

| | | Counts | Break |
|---|---|---|---|
| Nipper set at 8/32 of an inch, average per cent | 9.36 | 59.38 | 34.7 |
| Nipper set at 14/32 of an inch, average per cent | 17.9 | 60.37 | 37.1 |

The comparative break for the close setting would have been 33.89; that is, if the 59.38 had sized 60.37, the same as the wide setting, the break should have been 33.89 instead of 34.7, showing an increase in the breaking strength of the wide setting over the close setting of 3.21 pounds, or about 9 per cent.

Test No. 8 was made with different humidity conditions, first running with the air dry, then changing to moist, with the following results:

| Temperature | Relative | Actual | Average per cent |
|---|---|---|---|
| 71 | 47 | 3.9 | 11.3 |
| 73 | 64.7 | 5.7 | 10.7 |

This shows a slight increase when running with dry conditions.

Test No. 9 was made using a different number of processes of drawing before combing, using 1, 2 and 3 processes between the card and sliver lap machines, with the following results:

| | | | | |
|---|---|---|---|---|
| 1 process of drawing, average per cent | | | | 13.7 |
| 2 processes | | | " | 10.44 |
| 3 " | " | " | " | 9.58 |

This shows a difference of 3.26 per cent between 1 and 2 processes and .86 per cent between 2 and 3. With two processes of drawing, the lap ran off well on the comber; with three processes the lap licked considerably.

Test No. 10 was made using two different weight laps, one weighing 500 grains per yard, the other 600 grains per yard, with the following results:

| | | | | |
|---|---|---|---|---|
| 500 grains per yard, average per cent | | | | 12.47 |
| 600 " | " | " | " | 13.2 |

This shows an increase of .83 per cent when running the heavy lap.

These tests were all made on the Nasmith comber with the following general settings:

No. 1. Cylinder set with front of plain segment 1½ inches from the steel detaching roll at 2½ on index.

No. 2. Nipper crank stud set at 37½ on index.

No. 3. Nipper plate to detaching roll from 8/32 of an inch to 14/32 of an inch at 19 on index.

No. 4. Nipper to cylinder needles to 25/1000 of an inch at 33 on index.

No. 5. Nipper to open No. 27 on index.

No. 6. Amount nipper to open 12/32 of an inch at No. 19 on index.

No. 7. Top comb needles set 1/16 of an inch from the steel detaching roll, and the depth set so that a 6/1000 gauge under the points raised the gauge ⅛ of an inch from the front steel detaching roll. The comb was set at about ⅝ of an inch from the front of the comb arm.

No. 8. Feed rolls set as far back as the slots would allow.

No. 9. Detaching roll to move back at 1 on index.

No. 10. Leather detaching roll set as close to top comb as possible without touching, and to swing backward at 20 on index.

No. 11. Roll clutch to move at 38 on index, and to be fully in at 10 on index.

These settings are the same as given in the general instructions sent out with the machine with the exception of setting No. 1. This setting is given in the instructions as 2½ inches at 2½ on index. This is right for short and medium length cotton, but for long cotton it takes out too much long fibre with the waste. This is caused by the tail ends of the fibres which are held by the detaching rolls being caught by the rear rows of needles on the cylinder pulling them out and passing them out with the waste. By setting the cylinder 1 inch forward this is avoided.

The following tests were made on the old style Heilmann comber to show the difference in amount of waste removed with different settings and with short stock mixed in with the long. The same method was used in mixing the short stock as on the Nasmith comber.

Test No. 1 was made using a 280-grain lap of white

cotton and mixing 10 per cent of short colored stock, with the following result:

Running all white cotton, average per cent ..... 18.7
Running 10 per cent colored short, average per cent... 27.2
an increase of 8.5 per cent.

The following settings were used in making this test:

No. 1. Cylinders set with front of segment 1⅛ inches from detaching roll at 5 on index.

No. 2. Feed roll from detaching roll, 1-15/16 inches.

No. 3. Nipper plate from detaching roll 1⅜ inches.

No. 4. Stop screws from nipper stands 5/16 of an inch.

No. 5. Nipper from cylinder needles 21 gauge.

No. 6. Nipper to close at 9 on index.

No. 7. Top comb set at 30 degrees to a 21 gauge from segment, and as close to leather roll as possible.

No. 8. Top comb down at 4½ on index.

No. 9. Feed to commence at 4½ on index.

No. 10. Detaching roll to move forward at 6.

Test No. 2 was made by changing the position of the top feed roll, first setting it as far back as possible, then as far forward as possible, with the following results:

Top feed roll set back, average per cent 18.
" " " " forward " " 16.7

This is a setting that is not usually considered as affecting the amount of waste taken out. In a great many cases, when moving the bottom feed roll for different length cotton or different weight laps, the top feed roll will be allowed to remain in the same position. The position of the top roll affects the distance from the bite of the feed roll to the bite of the detaching roll.

Test No. 3 was made with the nipper and feed roll in different positions, with the following results:

With nipper set 1¼ inches from detaching roll and feed roll 1⅞ inches from detaching roll, the average per cent was 17.

With nipper set 1⅜ inches from detaching roll and feed set 1-15/16 inches from detaching roll, the average per cent was 18.5.

When making this test the position of the top roll was not changed. This shows a much shorter range of change than was made on the Nasmith machine. Settings were made with nippers 1⅛ inches and 1-3/16 inches from detaching roll and with feed roll 1¾ inches and 1-13/16 inches, but the detaching roll would not draw the cotton through and a high per cent of waste was made.

Test No. 4 was made by changing the angle of the top comb with the following results:

Angle of top comb 35 degrees, average per cent 18.
" " 25 " " " " 13.7

This shows an increase of 4.3 per cent, with the increase in angle of comb. This setting will usually make the greatest difference in the amount of waste removed.

Test No. 5 was made by changing the time of feeding forward and time of dropping the top comb, with the following results:

Feeding at 4.5 comb down 4.5, average per cent 17.7
" 5.5 " 4.5, " " 22.
" 5.5 " 5. " " 20.
" 5.5 " 5.5, " " 18.5

This shows that the time of feeding and top comb dropping both affect the amount of waste removed. Feeding earlier or later is one of the usual ways of changing the amount of waste, but will not always give the results required unless the time of dropping the comb and nipping is correct. In this test feeding was made at 5½ which is very late. With the feed commencing at 5½, it would not be completed before the detaching was completed or the nipper closed, unless both of these timings were made late, and would give a large amount of long fibre in the waste. The time of feeding forward is usually from 4 to 5 on index, and the time of top comb dropping should not be later than 5.

Test No. 6 was made by closing the nippers at different times, with the following results:

Nippers closing at 8½, average per cent 17.1
" " " 9, " " 17.5
" " " 9½, " " 19.

This shows an increase of waste with the nippers closing later, the greatest difference being between 9 and 9½. The setting will not always give the same result, as it depends to some extent on the time of detaching. If detaching is late, closing nippers late will not change the per cent of waste. Increasing the amount of waste removed by this method does not increase the quality of the work produced, as the increase is usually long fibre.

The changes, which give the best results on the Heilmann comber, are changing angle of top comb, position of top comb, distance from detaching roll to feed roll, distance of detaching roll to nipper plate and time of feeding. The time of dropping the top comb and time of closing the nippers will also affect the amount of waste, but changing at these points is not good practice. If the top comb is dropped too late, it will allow parts of the fibre to pass through without being combed properly. By changing the time of nipping later to increase the amount of waste makes a ragged break between the detaching roll and the nipper, which leaves some loose long fibres in the fringe of the lap at the nippers which will be combed out by the cylinder needles and go into the waste.

Tests were made on the Whitin high speed comber similar to those made on the old style Heilmann machine with practically the same results.

Test No. 1 was made using a 450-grain lap, adding 35 grains or 7.2 per cent of colored short stock. With nipper plate set 1-7/16 inches from detaching roll, and feed roll set 1-15/16 inches from detaching roll, with the following results:

Average per cent running all white .....13.4
" " " with colored added 20.5

Showing an increase of 7.1 per cent when running with the colored short stock added.

Test No. 2 was made using a 400-grain lap, adding 30 grains, or 7 per cent of colored short stock with nipper set 1-7/16 inches from detaching roll, and feed roll set 2 inches from detaching roll, with the following results:

Average per cent running all white .....14.4
" " " with colored added 20.3

An increase of 5.9 per cent when running with the colored stock added.

Test No. 1 would seem to show that practically all the colored stock was removed, while in test No. 2, with a lighter lap and wider setting, less of the colored stock was removed. This might be accounted for by the weight of the lap with the colored stock added being too heavy for the setting used and the detaching roll not drawing properly, allowing some long fibres to go into the waste, so that all the increase in the per cent was not due to colored stock.

These tests show, first, that the amount of short fibre in the stock affects the amount of waste taken out, also that certain changes in the settings affect the amount.

# Dyeing, Bleaching and Finishing.

## The Indigo Phase of the Dyestuff Situation.*

BY LEONARD W. CRONKHITE.

The solution of the threatened dye famine at the war's opening presented four aspects; (1) maintenance of supplies from old sources through special international arrangement; (2) acquisition of stocks lodged in other parts of the world; (3) resort to the use of certain vegetable dyes; (4) domestic manufacture.

Shifting the world stock of synthetic indigo was an operation dependent upon the fact that the Orient, being a large user, had considerable stocks of indigo. The world uses about eighty million pounds of synthetic indigo (basis of the usual 20 per cent indigo paste), 95 per cent of which comes from Germany. Of this production, nearly 70 per cent goes to the Orient, 50 per cent of the total to China alone. China had the largest actual stock, and because of the cheaper class of work for which she uses indigo, there was reason to believe that she might sell, rather than use, her indigo, to nations whose grade of work would enable them to pay a sufficiently high price.

Acting on a cable clue along these lines—the result of many cables, it was possible early in 1915, to offer in this country synthetic indigo for import from China. Against a normal price under 15 cents for paste containing 20 per cent indigotine, China had to be paid so dearly that the landed American price ranged from 90 cents to $1.30 per pound, as the operation proceeded through the year.

Some imports were made by dealers on a speculative basis; some consumers, therefore, paying for spot delivery from 20 cents to 30 cents per pound more than if they had bought for import. As stocks in the Orient dwindled, a few late lots were bought for import at nearly $1.50 per pound. Of late, China has asked $2 per pound for her small remaining holdings, and recent speculative spot prices here have ranged from $1.65 up to this figure. The difference between these highest figures and about $1.10 per pound for synthetic indigo, measures the inertia of movement towards natural indigo on the part of those unaccustomed to its use, for the cost of natural indigo per unit of indigotine has all along been approximately equal to a cost for synthetic indigo of not over $1.10 for 20 per cent of indigotine, or about 5½ cents per unit.

It is alleged that in exporting from China, a Chinese syndicate forfeited to German houses a pledged indemnity of half a million dollars, the legality of which indemnity has since been called in question. This story is offered without verification. If it is true, as is believed to be the case, that German houses in China were not expected by their parent houses to re-export, there is an explanation of the inertia of German representatives in this country, who must have been acquainted with the presence of stocks in China. While some have hinted that part of China's stocks were "planted" there for the sake of high prices, there seems no verification for any such theory, and it appears baseless. A considerable amount of other dyes have found their way here from China, but the main movement has been in indigo.

It is difficult to exactly estimate what stock of synthetic indigo China had, since in addition to stocks lodged in strong hands principally in Shanghai, native holders inland were found with stocks which they were induced to give up. From the best information obtainable, there was available after the opening of the war, at a price, approximately, 50,000 small casks (of 133⅓ pounds each, as compared with 400-pound casks used for the American trade), or about six and a half million pounds. Of this amount, Japan is considered to have taken about 6,000 casks (a little of which was sent to the United States before custom entry into Japan) England 10,000 casks, and the United States 25,000 to 30,000 casks, (or between three or four million pounds to this country). This last figure is based on personal knowledge respecting over 12,000 casks (about 1,600,000 pounds), and respecting the balance on the statements and reports of other importers.

These imports, together with some imports of natural indigo, gave the United States very nearly its usual year's supply of indigo in 1915.

As some have found, the operation was not without risk. Bankers were not enthusiastic at advancing on a commodity involving many times its normal value, and of a form susceptible of adulteration. Some consumers received choice Chinese mud dyed blue, at $1 a pound. In some instances, slight adulteration with calcium carbonate was found. In a few cases, the product consisted, apparently of scrapings from indigo vats. In some cases, where seals were intact, there was evidence that native patience had drilled small holes and extracted indigo, replacing with adulterants. These exceptional cases concerned only a few portions of lots in which good houses had been imposed on by natives. In the main shipments have been standard and to the credit of the Chinese and Japanese exporters involved.

In nearly all cases, weights were enormously short by reason of drying out of moisture, but the indigo paste was correspondingly concentrated above 20 per cent.

So-called "Chinese indigo" a natural extract containing hardly over 2 per cent to 3 per cent indigotine was not found safe to import.

Shortly after the war opened, fearing stoppage of supplies of synthetic indigo from Germany, those American buyers, accustomed to the use of natural indigo, bought fairly heavily from England as soon as the embargo early placed on indigo by Great Britain was partially lifted through the issuance of special permits to ship dealing with each particular sale. Later, feeling that after all, German sources would be kept open, this country sold its purchases of natural indigo back to England at a profit, almost on their landing here. On the final stoppage, however, of supplies from Germany during 1915, this indigo was gradually bought back for the United States at slightly higher prices, the repurchase proceeding slowly because of

*Presented before the National Association of Cotton Manufacturers.

the temporary easing of the situation due to the flow of synthetic indigo from China during 1915.

With the practical exhaustion of synthetic supplies for sale by early 1916, at anything like 5 and 6 cents per unit of indigotine, users all over the world are looking to natural indigo. The planted supply, before the introduction of synthetic, once enormous, had gone down to less than about one-eighth the world's consumption of synthetic compared on the basis of 20 per cent indigotine; and even with the impetus given by the war to increased planting in 1915, the supply has been little increased by reason of flood damage the past season.

There is in sight, or just recently has been, natural indigo to an amount equivalent to only about twelve million pounds of 20 per cent synthetic, against a normal consumption of synthetic of eighty million pounds, plus perhaps ten million pounds equivalent of natural indigo. Over against this fact of a small visible supply is to be considered, of course, that at the price, the world's consumption is greatly decreased, the Orient which normally uses 70 per cent of the total synthetic production, now calling for only limited quantities of indigo.

The European and American demand, recently has absorbed practically all the Kurpah indigo available, and a large part of the Bengal and Oudes (all India indigoes), whereas the small South American output also is nearly sold, the Mexican output being scarcely a factor.

India is the main source of both quantity and quality, though in point of quality Javas are of great excellence. Of India indigo, Bengals are of first importance, being of highest indigotine content, and in other respects so desirable, that they have always commanded a premium even for grades no higher in indigotine content than say Kurpah indigo. Bengals will run from 50 per cent to 75 per cent, and even higher in indigotine. In this year's markets they have commanded from 5½ to 7 cents per unit of indigotine, the higher concentrations commanding a more than proportionately higher price.

Nearly all the Bengal marks from the better factories were taken over by the British government for distribution under its supervision, and all other indigo sales from India or England have been made only under condition of special government permits being granted. The system has enabled the British government to keep a rein on the situation, to be tightened at any desired moment. While since the embargo early in the war, permits have been fairly freely granted, there is some indication that until the condition of the next and possibly increased natural indigo crop is known, the embargo may soon again become operative.

In point of value for the money, for average purposes, good Kurpah indigo has been the best natural indigo under war conditions. It has been obtainable at about 5 cents per unit of indigotine, running from 40 to 55 per cent (and occasionally 60 per cent) indigotine.

Unlike synthetic indigo, which is made to a specific percentage of indigotine (usually 20 per cent), natural indigo is a very broad term in respect of quality and character.

In addition to wide variations in indigotine content, natural indigo furnishes marked varieties of shade, great differences in hardness and foreign matter present, and in difficulty of extraction of the theoretical strength. For this reason it has naturally been the custom to buy on sample and test only; but during the rapid movements of this war market, indigo lots have moved too rapidly to allow of this procedure. Therefore, unprecedently, this country is buying on cabled description and general specification only. It is a tribute to British methods of business that shipments secured in this way from houses whose experience entitles them to do the business, have been of a high order, and the money was paid before we had the goods.

The testing of natural indigo is subject to several corrections sometimes overlooked. In general practice, results from different laboratories are likely to disagree, the consumer sometimes feeling injured, when in fact he has received full value.

To begin with, different chests and even parts of the same chest of indigo (especially Kurpahs), often fail to show uniform tests even within 10 per cent in extreme cases. Testing single lumps, as is constantly done, is misleading up to at least 5 per cent; average lots only should be used for arriving at a fair valuation test. Further, unless an exact standard procedure is determined on, the difference in results from two laboratories will be accentuated. Two good laboratories have recently been known to be 6 per cent apart in testing the indigotine content of two halves of the same lump. Out of this condition has come an agreed English testing procedure, and the authoritative dictum of such English tests as the Perkins test is generally regarded as fair and final, regardless of the apparent findings of a home laboratory. While it is poor business to attempt exact guarantee of the percentage of valuable constituent in a natural product, the general average should and can accord with the general sale representation, if houses will be careful of their foreign sources.

As natural indigo contains from 5 to 15 per cent of moisture, and under various conditions may lose, or gain moisture, comparative tests at different times or places should be made only with reference to a moisture-free or dry basis. Otherwise, as is frequently the case in disputes, wide differences in percentages of indigotine will appear to be shown. In indigo, from reliable sources received in good condition, either short or long weights are possible because of either loss or gain of moisture. Within reasonable limits buyers should recognize this explanation.

The use of natural indigo is not quite so simple as that of synthetic. It requires grinding, though in the absence of grinding equipment, the work can be done elsewhere at a small cost. In some cases, to obtain the full theoretical indigotine content in practical use, requires a complete and thorough-going dyeing equipment, comprising parts made with special reference to the nature of natural indigo; but in general, natural and synthetic may be regarded as interchangeable.

Even after the general adoption of standard synthetic indigo, controversy continued as to the relative merits of natural and synthetic indigo for certain purposes, a controversy now reviving in England. Natural indigo has continued to be used for certain purposes; and there are users here using both, who affirm that in practice a unit of indigotine from natural indigo proves slightly more economical tinctorially than one artificially produced. It is stated on good contemporary English authority that some English users have already determined to continue to use natural indigo even after the war, because of its rediscovered superiority for certain special purposes. This is

not affirmed as of general application. Normally the States uses about 10 per cent of the world's production of synthetic indigo, and a comparatively small portion of the output of natural indigo. With the relatively large importations of synthetic indigo lodged in China, and with the recent fairly liberal purchases of natural indigo from the latest crop, there is no immediate indigo famine in this country among large forehanded users, nor should be for a few months to come save among small consumers. But aside from what little natural indigo still remains unsold, there will be no more until the new crop available in early 1917.

New production of synthetic indigo has been rumored in this country, but at only a small rate of production not ready for some time, and at a price necessarily very high, not yet openly stated. The Japanese dye industry, subsidized by the government, is encountering difficulties due to lack of trained dye chemists, and moreover the government has for a time forbade the export of new colors. England is actually producing not only indigo to perhaps one-fourth her own needs, but other colors, but none of these will be available until after the war because of the use of the necessary intermediate products for explosives. It is apparently undoubted that England will be a competitor in the world's dye markets after peace is resumed.

## Reconstruction in Dyeing.*

BY EDWARD S. CHAPIN.

A year ago it was my privilege and pleasure to address this association on the subject: The Revival of the Use of Natural Dyestuffs. At that time we did not anticipate that the present war would be so protracted, nor that the dyestuff situation would become so complicated and desperate. Today the situation is very different from that of a year ago. Reconstruction has been the order of the day.

Concrete examples will best illustrate the reconstructions of the past year, and so I shall give a few typical examples of theoretical and practical developments in the dyeing of different forms of cotton. I shall also attempt to point out the fundamental principles which have governed in these developments, with the thought that once these principles are grasped they can be utilized by the various mills of the country in the solution of greater constructive problems with which the coming years seem weighted.

At the outset it must be stated that the available natural dyestuffs have not been able to, and cannot fulfill all the functions that have been fulfilled by highly developed coal tar colors. There are limits to the uses to which natural dyewoods can be adapted.

Further, it must also be noted that our task has been rendered especially difficult by the fact that the situation had to be faced without the aid of two of the principal natural coloring matters, indigo and madder. Indigo was the standard fast blue of the old dyer, both for wool and cotton, and madder the standard fast red. The madder industry was ruined with the development of the manufacture of its coloring principle, alizarine, by artificial means; so that it has been necessary to look elsewhere for red.

I know full well the prevalence of the idea that the natural and artificial dyestuffs have nothing in common. As a matter of fact, however, the natural and the artificial dyestuffs are of the same general nature and mutually supplement one another. Indigo is indigo whether made by man or by nature. Dioxy anthrachinon (alizarine) is dioxy anthrachinon whether made in the Badische factory or in the root of the madder plant, and methods of dyeing are identical. So, too, with the other natural dyestuffs, whose chemical identies and dyeing properties have been established fustic, logwood, quercitron, etc., etc. These are chemically the same whether made artificially or naturally, and only the fact that these dyestuffs can be extracted more cheaply from the natural sources than they can be made artificially, has stood in the way of their artificial manufacture.

The great needs of the past year have been responsible for bringing to light many scientific studies on the use of mordants and dyestuffs that would otherwise probably never have been published or practically tried out.

The American Dyewood Company kindly opened their extensive practical research laboratories for the work, and W. A. Mitchell allowed the use of his dyehouse and the valuable assistance of his master dyer.

The work which I am about to describe has gone along three lines:

First—To enlarge the range of colors obtainable from natural dyewoods, especially to obtain fancy and bright shades.

Second—To use apparatus that had been especially devised for the dyeing of artificial colors.

Third—To obtain results that would stand certain severe manufacturing processes, tests or service requirements.

At this point it is in order to speak in passing of a notable addition to the available natural dyestuffs. The osage orange grows in our own country. There is but a single species, *Maclura aurantiaca*, a native of Texas and Oklahoma and adjacent regions. It is a spreading tree with handsome, shining, ovate leaves, from 30 to 60 feet in height and 2 feet or less in diameter. Its wood is hard, strong and flexible, of a satiny texture, the heart wood bright orange turning brown, the sapwood lighter. It was formerly used by Indians for bows; hence called by the French settlers *bois d'arc* (bow-wood). It bears cutting back and has formidable thorns, and hence is very extensively used for hedges. The lumber from the wood has proven very valuable in the states in which the trees grow; but although the waste from these mills is considerable and it was known that the wood contained dye principles similar to those contained in fustic, its utilization to make commercial dyestuffs was not attempted until the present war and situation gave the proper setting and opportunity. The name selected for the extract from the osage orange is happily botanical, aurantine. This product is now being manufactured and used in large quantities. A very interesting dissertation on this new source of dyestuff is found in the Journal of Industrial and Engineering Chemistry, Vol. 6, No. 6, page 462, June 1914, a contribution by F. W. Kressman of the Forest Products Laboratory, Forest Service, United States Department of Agriculture, in co-operation with the University of Wisconsin, the subject being, "Osage Orange—Its Value as a Commercial Dyestuff."

The range of shades obtainable from natural dyestuffs has been considerably enlarged through the development of the chemical described as chrome assistant. This chemical

*Extracts from a paper read before the National Association of Cotton Manufacturers.

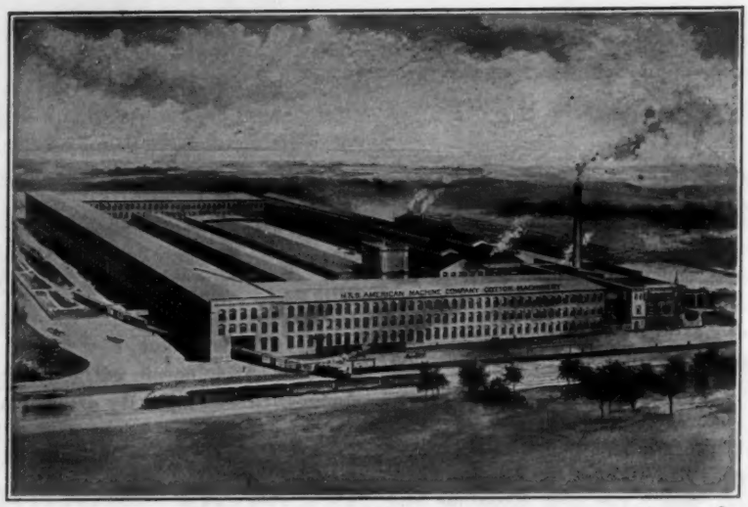
C. E. RILEY, Pres.
Boston Office
65 Franklin Street

Southern Offices
814-815 Empire Bldg.,
Atlanta, Ga.

# COTTON MACHINERY

Opening and Picking Machinery

Card Room Machinery



Spinning Room Machinery

Twisters for Wet or Dry Work

With Band or Tape Drive

## H. & B. AMERICAN MACHINE COMPANY

PAWTUCKET, R. I.

which was originally invented to use with chrome to mordant cotton in circulating machines has been worked over into a new more practicable form. The resulting product has been placed on the market as Chrome Salt D, and has given on cotton new reaches in the natural dyestuff compass of colorings.

The principal natural dyestuffs which have been used to produce the new range of colorings with chrome salt D, are logwood and hematine; fustic, quercitron, and aurantine, hypernic, and cutch and gambier. The first two, logwood and hematine, give blue; fustic, quercitron and aurantine, yellow; hypernic, a corinth or wine; and cutch and gambier, brown. By combining these various dyestuffs other shades, black, brown, orange, green, olive, khaki and various fashion shades have been secured.

Nor is this all; the study of the theory of the processes has led to further developments. It has been found that the character of the mordant and its effect on natural dyestuffs can be changed by the use of other chemicals; also that dyeings on the chrome mordant can be diversified by after treatments or further developments with other chemicals.

The effect of the chemicals on the mordant is best illustrated by tin crystals. If cotton mordanted with chrome salt D is dyed with hematine the result is blue. If the chrome salt D mordant is worked in a bath of tin crystals and then dyed with hematine the result is heliotrope to a bluish violet, depending on the quantity of tin crystals and the quantity of hematine employed.

With fustic, bark or aurantine, a straight chrome salt D mordant gives a medium yellow, but with the chrome salt tin crystals mordant the result is a very rich bright yellow, fully equal in richness and beauty of shade to such a bright handsome artificial yellow as chrysophenine.

Bluestone is an illustration of a chemical that can be used with advantage to enrich and develop the shades obtained from natural dyestuffs and chrome salt D. If the hematine blue or a green obtained from hematine and any of the yellows is worked in a bath of bluestone, the shades will be considerably brightened.

Tin crystals can also be used in after treatments with noteworthy beneficial results. Hypernic dyeings on chrome mordants can be lifted from a rather dull corinth to a rich wine, and varying mixtures of hypernic and the yellows from varying tones of brown to fairly bright orange and bright bordeaux .

The use of tin crystals in after treatments shows up most interestingly in the production from cutch and the yellows and hypernic of a very pleasing range of bright tans. With the old methods of dyeings, dull results alone were produced from these dyestuffs, not to be classed for a moment with the pretty and bright tans that came into vogue with the use of artificial colors; but with the development of the chrome salt process in the past year, the brilliancy and richness of practically all the standard tans of commerce can be readily reproduced with natural dyestuffs.

The chrome mordant range of dyeings can be further diversified by the use in the dyebath in conjunction with the natural dyestuffs of certain of the artificial colors. Thus, methylene blue, which is now being successfully manufactured in this country, can be added to the logwood or hematine dyebath, and a very rich blue results; or to a dyebath containing hematine and any of the yellows, and a bright green follows. Further, other artificial colors, as certain

chrome mordant dyestuffs or chrome resisting direct dyeing cotton colors, which are either still to be found in the reserves of many mills or which could be made in this country with proper protection, can also be used in conjunction with natural dyestuffs by this new process to enlarge the range of colorings. Special interest attaches to the dyeings with bark and with aurentine, the two dyestuffs from trees indigenous to the United States.

The following formulae represent the general method of application of the processes, and will be given for yarn dyeing, although they are equally applicable for pieces and for stock.

*Dark blue on yarn — 100 pounds yarn.* Mordant the yarn with 10 per cent. chrome salt D. Enter at the boil and boil one hour. Rinse. Dye with 15 per cent. logwood extract or hematine paste. Enter at the boil and boil one half hour. Add 20 per cent. common salt, and continue the boil one half hour. Rinse.

This blue is of exceptional fastness to soaping. It can be boiled with white cotton in a 10 per cent. soap solution for thirty minutes with no change in shade of the blue and no staining of the white. It is therefore suitable for ginghams and other fabrics in which a blue of exceptional fastness to soaping is required. The blue can be brightened by developing with bluestone. Use 3 per cent. bluestone and work for twenty minutes at 150 degrees. Results are not so fast to soaping as the undeveloped dyeing, but are still remarkably fast.

*Black on yarn—100 pounds yarn.* Mordant the yarn with 15 per cent. chrome salt D. Enter at the boil and boil one hour. Rinse. Dye with 25 per cent. logwood extract or hematine paste and 10 per cent. fustic extract. Enter at the boil and boil one half hour. Add 20 per cent. common salt, and continue the boil one half hour. Rinse.

This gives a black of medium depth and of exceptional fastness to soaping. If a very heavy black is desired the amounts of dyestuffs should be increased. In this case it is desirable to after treat with 2 per cent. bichrome, twenty minutes at 150 degrees, and to give a final soaping. It is also especially necessary to rinse very thoroughly after each of the various steps in the process. If directions are carefully observed, a rich black is obtained, free from dust or crock, and of extra fastness.

Hard waters must first be softened with acetic acid or even hydrochloric acid, otherwise, the chrome mordant is precipitated by the lime of the water and will not work. Copperas can be used after mordanting, 3 per cent cold for fifteen minutes, to give a more effective mordant. After rinsing, the dyeing then proceeds as usual, and a greater development is secured with the same amount of dyestuff.

*Medium yellow on yarn—100 pounds yarn.* The process is the same as recommended for dark blue on yarn, except that in the dyeing is used 12 per cent. of fustic extract, bark extract, or aurantine paste. The results are of excellent fastness to soaping, though not so exceptionally fast as the logwood or hematine blue.

*Bright yellow on yarn—100 pounds yarn.* Mordant the yarn with 10 per cent. chrome salt D. Enter at the boil and boil one hour. Rinse. Enter into a cold bath containing 2 per cent. tin crystals and just enough muriatic acid to keep the bath from turbidity, about ½ per cent. commercial acid. Work for twenty minutes. The yellow color of the mordant changes to colorless or grey-green. Rinse well. Dye with 12 per cent of fustic extract, bark extract, or aurantine paste by the usual process. The result is a brilliant yellow of moderate fastness to soaping. On pieces it closely matches chrysophenine.

The use of hypernic as a base for reds and allied colorings, and as a red element in combination shades, leaves much to be desired. The fast red of the natural dyestuffs series was madder; it was never intended that hypernic, the extract from the soluble red woods, should be used for reds. Hypernic extract is not tinctorially strong, neither are the straight results fom hypernic bright nor fast. It has been considerable of a problem to secure on cotton from hypernic satisfactory reds or colors containing a red element—in fact, it should be said that these results are really at the present time only on trial. The following formulae represent the best methods to date of dyeing hypernic to obtain corinth, cardinal, bordeaux, pink, etc.

*Corinth on yarn.* The process is the same as recommended for dark blue, except that in the dyeing is used 25 per cent. of hypernic extract. The result is of moderate fastness to soaping. By after treating with 1 per cent. of chrome salt D, ten minutes at a boil, a darker shade of corinth is secured; and the result is much improved in fastness to soaping, and could doubtless be used for ginghams or fabrics requiring results of extra fastness to soaping. To secure brighter results from hypernic, tin crystals must also be used, and following are two typical formulae.

*Cardinal on cotton.* Mordant as usual with 15 per cent. chrome salt D, and dye with 35 per cent. hypernic extract and 10 per cent. fustic extract or aurantine paste. After treat in a fresh bath with 1 per cent. tin crystals, fifteen minutes at a boil. This will brighten the shade. Then add to the same bath 2 per cent. chrome salt D, and continue boiling fifteen minutes. This will make the result faster.

The mordant baths and the dyebaths are not exhausted, and can be used again, strengthening with about one half to two-thirds of the original amounts of mordant and dyestuffs. The result is a fairly rich cardinal of good fastness to strong soaping.

*Pink on yarn.* The process is the same as recommended for cardinal except that the percentages of dyestuffs and chemicals are greatly decreased. Mordant with 5 per cent. chrome salt D; dye with 4 per cent. hypernic extract and 1 per cent. fustic extract or aurantine paste; brighten with 1/6 per cent. tin crystals, and fasten with ¼ per cent. chrome salt D.

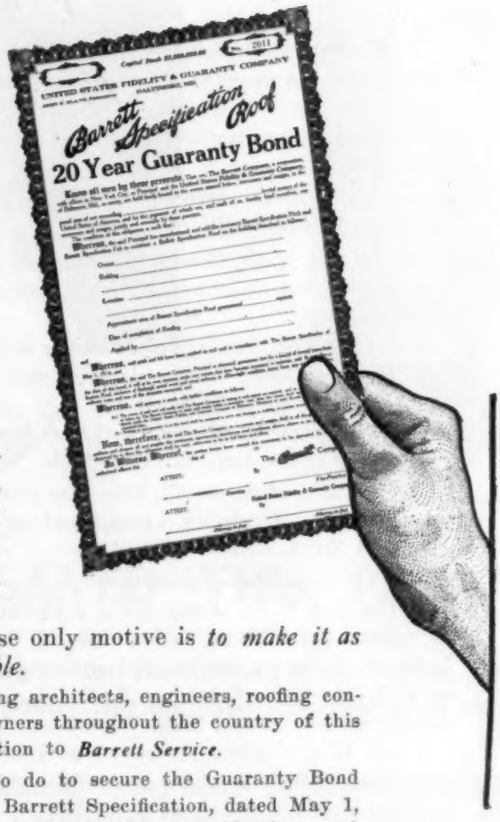
Cutch has proven a veritable tower of refuge, giving readily results of superlative fastness, a refreshing contrast to the difficulties experienced with hypernic. The following formulae are typical of tans that can be colored on hosiery with cutch and the various yellows by the new processes. These tans compare favorably with the results from the fastest sulphur colors.

*(To be continued.)*

---

The John B. Wiggins Co., of Chicago, Ill., engravers, plate makers and dye embossers, since 1857, announced their removal on May 1st to 705 Peoples Gas Building, where they have located a new display room and to their new shop at 1104 South Wabash Ave. The convenience and quality of the Wiggins service is well known and needs no further comments.

# Barrett Specification Roofs




## Facts about our new 20 Year Guaranty Bond

WE are now prepared to give a twenty year Surety Bond Guaranty on every Barrett Specification Roof of fifty squares and over in all towns in the United States and Canada of 25,000 population and more, and *in smaller places where our inspection is available.*

This Surety Bond will be issued by the United States Fidelity and Guaranty Company of Baltimore and will be furnished by us *without charge.*

Our only requirements are that the roofing contractor shall be approved by us, and that The Barrett Specification, dated May 1, 1916, shall be strictly followed.

We know that if this is done the roof will surely last twenty years and probably much longer.

Obviously, our inspectors will insist upon the proper quantity and quality of materials and the best workmanship being used because, if the roof for any reason goes wrong, *we alone are responsible.*

From the architect's, engineer's and buyer's standpoint, such an arrangement is ideal. They are assured of having an inspector on the roof whose only motive is *to make it as good as possible.*

We are notifying architects, engineers, roofing contractors and owners throughout the country of this important addition to *Barrett Service.*

All you have to do to secure the Guaranty Bond is to have The Barrett Specification, dated May 1, 1916, included in the building specifications and have the roofing contractors figure on that basis. The Specification of that date includes the twenty year Surety Bond provision.

If you wish any further information regarding this Guaranty, write to our nearest office and the matter will be given prompt attention.

*A copy of The Barrett Specification, with roofing diagrams, free on request.*

The Barrett Company

*Largest Manufacturers in the World of Roofing and Roofing Materials*

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati Pittsburgh
Detroit Birmingham Kansas City Minneapolis Nashville Salt Lake City Seattle Peoria
THE PATERSON MANUFACTURING COMPANY, Limited: Montreal Toronto Winnipeg
Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.

TRADE B MARK

# Notes About Men You Know.

G. C. SEAGROVE has accepted a position as master mechanic and chief engineer at the Fitzgerald Cotton Mill, Fitzgerald, Ga.

WILLIAM ELLIS has been promoted from second hand of carding at the Williamantic Mills of the Quidnick-Windham Mfg. Co., Williamantic, Conn., to the position of overseer of weaving at the Quidnick, R. I. mills of the same company.

D. N. CRENSHAW, of the Arlington Mills, Gastonia, N. C., will have charge of the new No. 3 spinning room of Efird Mfg. Co., Albemarle, N. C.

W. R. MOSELY, of Greer, S. C., has accepted the position of master mechanic at the Monaghan Mills, Greenville, S. C.

W. E. POOVEY, superintendent of the Dudley Shoals, Cotton Mills, has accepted the position of superintendent of the Falls Mfg. Co., Granite Falls, N. C., and will hereafter be general superintendent of the Dudley Shoals and Falls plants.

E. B. BROWN has accepted the position of overseer in carding at the Cherryville (N. C.) Mfg. Co.

J. R. HOWE, of the Phenix Mill, Kings Mountain, N. C., is now night overseer of weaving at the Osage Mill, Bessemer City, N. C.

GEO. CARRIGAN, formerly night carder at the Manhasset Mills, Putnam, Conn., is now night overseer of carding at the Taftville Mills, Taftville, Conn.

G. C. O'KELLY, of Newry, S. C., has become night superintendent of the Lavonia (Ga.) Mills.

J. F. JAMES, of Stonewall, Miss., has accepted the position of overseer of twisting, winding and spooling at Marlboro Mills No. 5, Bennettsville, S. C.

G. O. GOBLE, formerly manager of the Locke Cotton Mills, Concord, N. C., is now filling a similar position with the Sapona Cotton Mills, Cedar Falls, N. C.

W. A. HAMMOND has resigned as overseer of carding at the Palmetto Mills, Columbia, S. C., to accept a similar position at the Fairfield Mills, Winnsboro, S. C.

CHAS. H. CULPEPPER, formerly boss knitter at the Danville Hosiery Mill, has been promoted to the position of superintendent, succeeding J. B. McKaig.

J. B. MCKAIG has resigned his position as superintendent of the Danville Hosiery Mill and accepted a position with a similar corporation in Cincinnati, Ohio.

W. H. PATTY, overseer of the looper room at the Danville Knitting Mills, has been promoted to the position of boss knitter.

J. W. OWEN has accepted a position as overseer of the looper room at the Danville Knitting Mills, Danville, Va.

C. A. FOSTER, formerly looper fixer at the Danville Knitting Mills, Danville, Va., has accepted a position as boss knitter at the Dallas Knitting Mill at Dallas, Ga.

D. L. PORTER, of Lenoir City, Tenn., has accepted the position as looper fixer at the Danville Knitting Mills, Danville, Va.

W. F. IVEY has resigned as night overseer of spinning at Hannah Pickett Mills, Rockingham, N. C., and accepted position of day carder and spinner at Jackson, Mills, Monroe, N. C.

J. H. LITTLE has resigned as night superintendent at Stony Point, N. C., to accept a similar position at the McAden Mills No. 1 and 3, McAdenville, N. C.

MALCOURT HOWLAND, overseer of carding at the Parker Mills at Fall River, Mass., has resigned to become night overseer of carding at the Manhasset Mills, Putnam, Conn.

W. P. CARGILL has resigned as overseer of spinning at the Wallace Mills, Jonesboro, S. C., to accept a similar position at the Granby Mills, Columbia, S. C.

L. W. CUDDY has resigned as superintendent of the Atlantic and Gulf Mills, Quitman, Ga., to become assistant superintendent of the Connecticut Mills, Damelson, Conn.

J. W. ALEXANDER is now superintendent of the tire duck department in the new mill of the Arlington Mills, Lawrence, Mass.

R. W. DENNIS has been promoted from second hand to overseer of No. 1 weave room at the Exposition Mills, Atlanta, Ga.

B. J. DOBBINS has resigned as general superintendent of the Henrietta Mills at Henrietta and Caroleen, N. C.

W. P. LEE has resigned as night superintendent of the Lenoir Cotton Mills, Lenoir, N. C., to become overseer of carding and spinning at the new Falls Mfg. Co., Granite Falls, N. C.

P. E. ADAMS has resigned as overseer of spinning at the Paola Mills, Statesville, N. C., and has become overseer of spinning and twisting with the Turner Mills Co., East Monbo, N. C.

W. P. PEPPER has been promoted from second hand to overseer of No. 2 weave room at the Exposition Mills, Atlanta, Ga.

LUTHER ATHERTON, formerly second hand in the picker room at Shawmut, Ala., has accepted a position in the picker room at the new Fairfax (Ala.) Mill of the same company.

Byron F. CARD has resigned as manager of the Fitzgerald (Ga.) Cotton Mills to accept a position with the Columbia (S. C.) Mills.

G. B. HAMBY has resigned as overseer of weaving Aponang Mfg. Co., Kosciusko, Miss., to accept the position of overseer of weaving, Tallassee Falls Mfg. Co., Tallassee, Ala.

W. S. JOHNSON has accepted a position as overseer of carding at the Toccoa (Ga.) Cotton Mills.

D. C. WILLIAMS has resigned as superintendent of the Gastonia Cotton Mfg. Co. and will hereafter devote all of his time to the Avon Mills of Gastonia, N. C.

G. D. MCFARLAND has resigned as overseer at the Echota Mills, Calhoun, Ga., and accepted a position as overseer of weaving and finishing at the Apanaug Cotton Mill, Kosciusko, Miss.

J. O. GRAY has resigned as overseer of weaving at the Deep River Mills No. 2, Randleman, N. C., to accept a similar position at Kannapolis, N. C.

F. L. DRAKE has resigned as overseer of carding at the Fairfield Mills, Winnsboro, S. C., to accept a position at the Olympia Mills, Columbia, S. C.

Pyrene
FIRE
EXTINGUISHERS

# ONE PYRENE WOULD HAVE SAVED THIS PLANT

Only a spark at the start—this fire grew big. Water was played on the flames. Water failed. Everything went.

Water most often fails at cotton fires. The oily nature of cotton prevents water from penetrating to the hidden spark—the germ of the big fire.

But Pyrene is a degreasing agent. It reaches to the heart of the bale or pile and kills the treacherous glow. It cuts the spark of burning cotton faster than it can travel. It won't damage the delicate machinery of cotton mills.

In practically every leading American cotton mill and warehouse, fire has little chance to grow beyond the spark. Pyrene stands watch. Nearly 1,000,000 now in use.

Write for interesting booklet.

Inspected, Approved and Labeled by the Underwriters' Laboratories, Inc.

**PYRENE MANUFACTURING CO., 42 Vanderbilt Avenue, New York City**

*Makers of a Complete Line of Fire Protection Appliances*

M. C. CARNES has resigned as overseer of carding at Bladenboro to accept a similar position with the Cannon Mills, Kannapolis, N. C.

ALBERT E. PRAY, formerly employed at the Waypoyset Manufacturing Co. of Central Falls, R. I., has been appointed overseer of spinning at the New Hampshire Spinning Mills, Penacook, N. H.

WILL TAYLOR has been promoted from second hand in carding to night overseer of the hosiery department at the Riverside Mill, Anderson, S. C.

W. H. HAMES has been promoted from second hand to overseer of No. 2 card room at the Woodside Mills, Greeneville, S. C.

L. N. CHANDLER has resigned as overseer of spinning at the Granby Mills, Columbia, S. C., and returned to his former position as overseer of spinning at the Wallace Mills, Jonesboro, S. C.

G. R. GOODWIN has resigned his position as overseer of ring and mule spinning for the Empire Cotton Mills, Welland, Ont., Can.

P. H. ANDERSON has been promoted from loom fixer to overseer of the cloth room at the Dallas (Tex.) Mills.

D. H. JONES has resigned as superintendent and manager of Victory Mfg. Co., Fayetteville, N. C., to devote his whole time to the Millen Cotton Mills, Millen, Ga.

D. R. HINKLE has resigned as carder and spinner at Millstead, Ga., to become assistant superintendent at Tallassee, Ala.

MARVIN POOVEY, of Gastonia, N. C., has accepted the position of overseer of spinning at the Lenoir (N. C.) Cotton Mills.

J. A. ELKINS has been promoted from head loom fixer to overseer of weaving at Victory Mfg. Co., Fayetteville, N. C.

W. A. STOWE has been promoted from second hand to overseer of carding at the Highland Park Mill No. 3, Charlotte, N. C.

GEORGE D. WOOLEY, overseer of weaving, slashing, drawing-in at the Warren (R. I.) Mfg. Co., has resigned his position after a number of years of efficient work.

ELMER B. GAY, JR., formerly employed at the New Bedford Cotton Mills, has accepted a position as night superintendent for the Trainer (Pa.) Spinning Co.

J. P. ELLER has resigned as overseer of weaving at the Dilling Mill, Kings Mountain, N. C., to accept a similar position at the Chadwick-Hoskins Mill No. 4, Charlotte, N. C.

A. L. HOWELL has accepted the position of assistant superintendent of the Ernaldson Waste Mill, St. Pauls, N. C.

J. P. CHESTER has been promoted from overseer of spinning to night superintendent of the Lenoir (N. C.) Cotton Mills.

J. M. DAVIS has resigned as overseer of spinning at the Unity Spinning Mills, LaGrange, Ga., and accepted a similar position at the Hillside Mills, of the same place.

J. V. MCCOMBS has been promoted from superintendent of the Martel Mfg. Co., Egan, Ga., to a similar position with an automobile tire fabric mill at North Adams, Mass., which is controlled by the same people.

C. M. BORDEN, formerly of Kershaw, S. C., has accepted the position of overseer of carding at Milstead, Ga.

J. F. MOSS has been promoted from second hand to overseer of weaving at the Dilling Mill, Kings Mountain, N. C.

J. H. BAGWELL has resigned as overseer of weaving at the Chadwick-Hoskins Mill No. 4, Charlotte, N. C., and accepted a similar position at the Hamilton-Carhart Mills. Rock Hill, S. C.

E. B. WISE, of Batesburg, S. C., has accepted the position of superintendent of the Martel Mfg. Co., Egan, Ga.

J. T. TICE, of Columbus, Ga., has accepted the position of master mechanic at the Hillside Mills, LaGrange, Ga.

J. V. THOMASON has been promoted from overseer of weaving to superintendent of Victory Mfg. Co., Fayetteville, N. C.

GROVER SUTTON, of Edenton, N. C., has accepted the position of night spinner at Holt-Williamson Mills, Fayetteville, N. C.

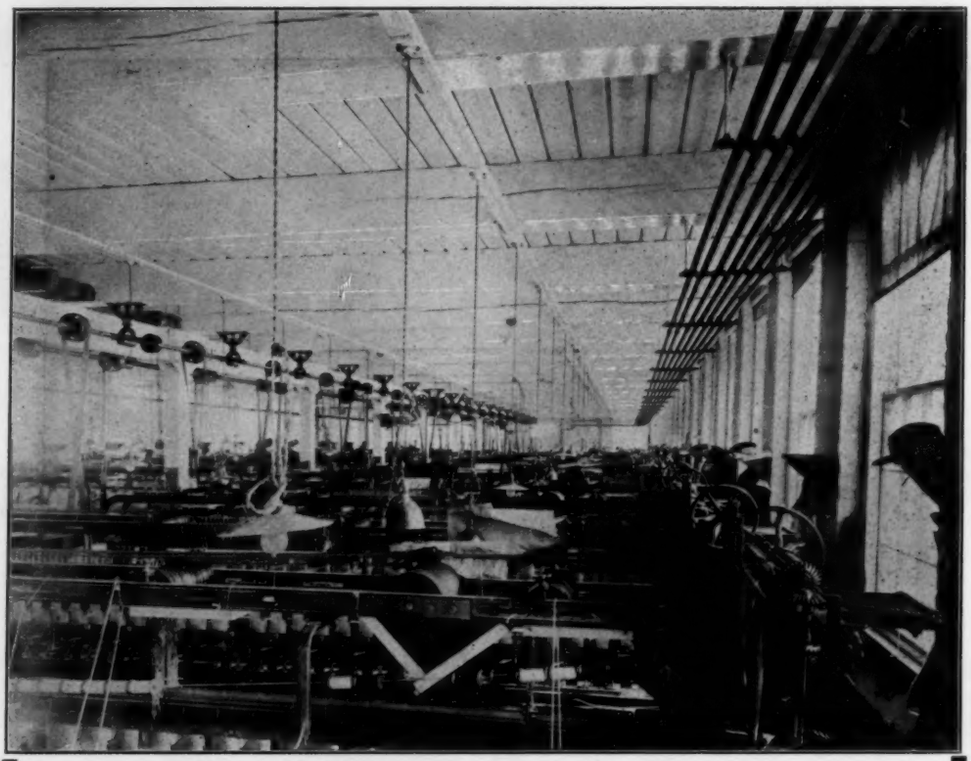
## A New Catalog.

Announcement is made elsewhere of the new catalog just issued by The Graton & Knight Mfg. Co., oak leather tanners and belt makers, Worcester, Mass. It is a fine specimen of what a catalog of this nature should be, for besides illustrating and describing all the products made by this company, a great deal of space is devoted to facts of general interest to those who purchase belting, lace leather, packings and other leather products.

The belting section of the catalog is of unusual interest to buyers of belting, as it not only describes the characteristic qualities of each grade manufactured, but also explains clearly and conclusively why these grades are essential, their particular differences and capabilities. This section also embodies valuable mechanical rules, tables and formulas, to further assist the buyer to determine the proper grade,

width and weight of belting required for any given drive.

A special section of the catalog is devoted to leather packings, describing all the various kinds, grades and the advantages of each. The company makes all kinds of straps, automobile leathers, halters and other leather sundries, the various kinds running into the hundreds, and these are illustrated and described in the section devoted to this department. A copy of this catalog, which is shown in the illustration, will be sent upon request to executives and others interested in the buying of belting and other leather products.



ADDED LIGHT Lowest Ultimate Cost SANITARY FINISH

# Chaffee's Mill White

**A Permanent, Light-Diffusing Paint for the Factory Interior. The Paint that Sparkles O'er with Light.**

---

**Chaffee's Mill White** Reflects ALL the Light Rays Into Every Nook and Corner

PROLONGS THE DAYLIGHT HOURS DISPELS THE GLOOM
MATERIALLY REDUCES BILLS FOR ARTIFICIAL LIGHT
MAKES SANITARY SURROUNDINGS INSURES INCREASED PRECISION
ACCURACY AND WORKMANSHIP FROM EMPLOYEES

Wouldn't it pay you right now to Investigate the Merits of this Sparkling, Shadow-Chasing White Paint, which has proven its Efficiency in Hundreds of the Largest Mills? What we have done for others we can do for you.

---

*Write TODAY for Descriptive Booklet and Paint Panel*

## THOMAS K. CHAFFEE COMPANY

**PROVIDENCE, R. I.**

This equipment is using exhaust steam at atmospheric pressure.

# PARAMOUNT

*(Trade Mark Registered)*

## Drying and Shaping Forms

### *Infringement Warning*

This apparatus is protected by U. S. Letters Patent No. 1,114,966 dated October 27, 1914, owned by Paramount Hosiery Form Drying Co. Infringers are being vigorously prosecuted. You are hereby warned that any unlicensed manufacture, sale or use of this apparatus will be at the peril of the manufacturer, seller or user.

"One who, without license, manufactures, uses or sells an infringing device, is an infringer under the law."

### *Compare With Conditions in Your Boarding Room*

**Saves Labor, Power, Steam and Seconds. Forms are made to suit your styles**

**YOU CAN SECURE THIS EQUIPMENT WITHOUT CAPITAL OUTLAY**

*FOR PARTICULARS WRITE*

## PARAMOUNT HOSIERY FORM DRYING COMPANY

**337 WEST MADISON ST.** Successors to THE PARAMOUNT METAL FORM DRYING CO., Beaver Dam, Wis. **CHICAGO, ILLINOIS**

# Practical Problems Discussed by Cotton's Readers

**We invite our readers to make use of this department for the discussion of any and all problems arising in the mill or the finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statements of opinion or fact which may appear in this department unless so indorsed. This department is open to all. Suitable letters are paid for in cash.**

## The Relation of Overseer to Employee.

EDITOR COTTON:

The article by "Honest Bill" and the editorial on the same subject, in the March issue of COTTON, suggests something worthy of further consideration. It does not matter what name is used to designate the man who has charge of a department, but it is of considerable importance *what* that man is. There is probably no line of manufacture in which there is such a variety of employees as in a cotton mill, including as it does, help of all ages and both sexes, skilled and unskilled, and ranging from the illiterate to those who have a fair education. Therefore the ideal overseer's qualifications, should range from those of a teacher to those of a boss of a railroad construction "gang." I use the term "ideal" because I realize that few overseers measure up to the standard they should, and that there is room for improvement in all of us.

First of all, he should be a student of human nature, and be able to accord to each hand under him the particular treatment that will be best for that hand. Some individuals need constant instruction, and it does not seem to matter how long they stay on a certain kind of work, as soon as the instruction stops, they begin to fall back, and soon their work is indifferent, and they become unsatisfactory hands. Some need encouragement, and a little encouragement judiciously given will work wonders; while others can only be kept in line by being stern with them.

Probably every overseer, who has had much experience and who studies his help, has had hands, who, if they were treated kindly, would immediately conclude that the overseer was an "easy mark" and would try to take advantage of him. It may be said that properly trained help do not need "bossing" in the sense that "Honest Bill" refers to. This is true, and if properly trained help could be obtained, all that would be required would be an instructor or leader to plan and lay out the work, and instruct those under him, as to what was required. But it must be borne in mind that an overseer has nothing to do with the training of his help until they have arrived at an age where either habits of industry or idleness, honesty or deception, willingness or stubbornness as well as others, have been formed, in addition to the inherited qualities which nature has bestowed upon them. It has been said, that the time to begin training a child, is three or four generaitons before it is born. An overseer therefore, must take hands of all ages, who have all kinds of inherited traits, whose early training may have been good, bad, or indifferent, and who may or may not be able to talk "United States," and train them to do work requiring more or less skill. To be successful, he will have to be an instructor to some, and a "boss" to others. A pleasant word, or a joke, will accomplish wonders with some, while others seem to think that the least sign of friendliness is a sign of weakness.

An overseer should be a man of good character, and his personal conduct should be such as to command the respect of all. By being a "boss" I do not mean that it is necessary to lose one's temper, swear, or use abusive language, as, if you have a hand that needs that kind of treatment, better "fire" him at one; but at the same time, it is well for the help to know that the overseer can become angry, if occasion requires. I believe there is such a thing as "righteous indignation." An overseer should always be courteous, and treat his help in such a way that they will feel free to go to him when anything about the work goes wrong, or when there is something that they do not understand, or that is troubling them. If they feel free to go to him at any time, he will get a good many trivial and unreasonable complaints, it is true, but on the other hand, if he is so gruff with them that they are afraid to speak to him, there may be something wrong with the work, or a machine may be out of order and making bad work or losing production, the company will not be getting the results that it is entitled to, and the hand is getting less pay, if on piece work, and soon becomes dissatisfied, and probably looks for work elsewhere.

A really good overseer is a valuable man in any department, and should receive a liberal salary, and his work should be appreciated. Of course he should have a good knowledge of the machinery and processes in his department, but I would very much rather have a man for an overseer who is a first-class manager of help, but whose knowledge of machinery and processes was limited, than to have an expert on machinery and processes, but a poor manager of help, for it is much easier to acquire a knowledge of the work, than to acquire the ability of a good manager. It is a common remark that, "I do not care what they call me, so long as they call me in time for my meals," and it does not matter whether a man is *called* an instructor, foreman, overseer or boss, for he will be *called* a good many names that would not look well in print, if he does not treat his help as he should and at the same time see that the company that he works for is getting a "square deal."

"Albert" (N. H.)

---

One of the features of the advertising campaign on the Ideal Stencil Machine is the free "from" stencil. When the prospective customer writes in for information, on the stencil machine he not only gets a book called "Safeguarding Your Shipments," full of valuable information for shipping clerks, but also a stencil in which is cut his own name and address. The stencil has a twofold value. It shows the actual work of the stencil machine and allows the prospect to test out the stencil method of marking by addressing some of his own shipments with the free sample stencil. COTTON readers who are interested in receiving a free "from" stencil, of their name and address can get one by writing the Ideal Stencil Machine Company, Belleville, Illinois, U. S. A., No. 3 Ideal Block.

## Textile Accounting by Machine.

(*Continued from page* 374.)

off trial balances, the accrued interest on bills payable is figured up. Almost invariably these notes run in even sums, multiples of $5000 with the "dating" of each different but the rate of interest the same in many instances.

The "average due date," or the day upon which the mill can draw draft on Selling Agents for the net proceeds of every invoice shown on the "sales sheet" for a given period, and avoid payment of interest on any item, is a problem to be calculated once or twice a month. A "sales sheet" will contain a vast number of invoices, each bearing a different date and different terms of payment, and as soon as this sheet is received from the Selling Agent the mill at once figures out the "average due date" to establish when the funds will be available. To draw the money in advance of this would require payment of interest to Selling Agents. The usual process followed is to select a day, figure how many days from that each invoice has yet to run to attain maturity, multiply the number of days so obtained by the amount of that particular invoice, add together the result of all such multiplications and divide by the total of invoices as shown on the "sales sheet." The result, added to the "selected day," will give the "average due date."

Eastern textile plants have for years used calculating machines to handle the various mathematical problems in their accounting work, and lately the southern mills have shown a marked tendency to install equipment of this nature. Keen competition has demonstrated that closer attention must be paid towards securing maximum efficiency

*Occupies Less Than a Square Foot of Space*

in every department, and that profits depend largely upon the elimination of wasteful methods in the office as well as in the plant proper.

Within the past year or two the Monroe calculating machine, shown in the accompanying cut, has met with marked success in textile accounting. This machine is manufactured at Orange, N. J., but owing to the great demand for it since it appeared on the market, substantial increases had to be made in the factory output before southern offices could be opened. The company has recently opened offices in Greenville, Atlanta, and Birminghim. This machine is particularly well adapted to textile accounting and handles with great facility each of the various mathematical problems found in this class of work. The simplicity of operation, speed, flexibility in changing from one process to another, a "no repair bill" record, and a low first cost combined with a 5-year guarantee make it an attractive proposition. The "visible check" feature of this machine is another of its striking features. Special training or arbitrary rules are not required in its operation, thus making it available for the use of everyone in the mill office.

It is possible to attain great speed and an invoice containing fractional yardage and price, two or three discounts and a freight allowance, can be figured and the "net" and other factors determined in 20 seconds and less. Pay-rolls are cross-added, hours or pieces multiplied by the proper rates and deductions made, in half the time required mentally. In some cases, where the rate is the same for several employees, the wages due each can be calculated in turn without "clearing" or "re-setting" the machine for each problem. An entire cost sheet, containing one production, is figured straight through regardless of the number of items, and the cost figured to 6 or 8 decimal places for each item, without "clearing" or "re-setting" from beginning to end. Several plants who own these machines claim they figure cost sheets in one-tenth the time formerly required.

The human mind appears capable of untold development, and the ratio of the value of employee to employer is in direct proportion to the development of the employee's mind with regard to the business interests of the employer. Now that it is possible to obtain satisfactory devices at a moderate cost, which will perform simple or intricate calculations with perfect accuracy and a saving of 50 to 75 per cent in time, it is clearly wasteful and inefficient to pursue a policy of tieing down with a mass of detailed figuring the active brain of an employee, costing several hundred dollars a year, instead of allowing opportunity for that mind to develop along lines of great import to the conduct of the business.

## Reputations and Hosiery Yarn.

EDITOR COTTON:

Owing to the fact that there are some few fine yarn mills in the South and several under construction, I will try to give a few points from my experience that will possibly be of some interest to the readers.

It is of course very essential that we have good cotton in order to turn out good yarn, that is a well known fact. However, having good cotton does not by any means assure that we are going to get good yarn. I would like to say before going further, that when I say good yarn, I mean yarn that will sell when business is bad. You can sell any kind of yarn when business is good and the knitters are crying for deliveries, but when there is some one at every turn and corner trying to get the knitter to buy, there's where your reputation counts, because the knitter knows that you made good yarn when he was not so praticular in his demands for quality, and now that the trade has gone bad, there is no question but that you will continue to do so, therefore, your yarn comes first.

I am of the opinion that if the machines are kept in good order and with the right kind of cooperation with the help, there is no good reason why we should not turn out good yarn, that is if the "man" is there to get it. I am somewhat like "R. W. A." in a recent article in COTTON "Examine the Man." In the manufacture of yarns, and especially fine yarns, there is nothing better than a good system that will *stick*, that is, what's the use of making out

a system, no matter how efficient it may be, if you are not going to make it stick. We all have our shortcomings, but, when you make a mistake, try not make the same one twice. Profit by your mistakes. Think before you act, the next time the same thing presents itself. No rule can be given that could be successfully applied to all mills, except that we might say "horse sense" should be applied to all manufacturing plants and in all departments. We could give data for all kinds of speeds, drafts and twists, kind of cotton to be used for certain numbers when a certain breaking strength is required, and many other things that would be unnecessary for the fact that in all machine catalogs such information can be readily obtained. Therefore, that is not the point I am trying to bring out. The point I am trying to come to is, that we should be wide-awake at all times, and when we see things wrong, correct them as soon as possible. Let nothing pass your eye. If you cannot see, you cannot run a mill. Get the point? Therefore, it is not only desirable that we keep our eyes open and *see what we see,* but in order to get results we should correct the evils.

We cannot impress upon our minds too strongly the importance of keeping our yarns free from slubs, bunches, thick and thin places, and bad knots at the winding, because nothing hurts the knitter worse than those five defects. Many times just *one slub* will cost the knitter from $1.00 to $5.00 in loss of needles, time and waste. Therefore, it is plainly seen why the knitter does not want yarn containing such defects; that your reputation hangs upon a very small thread and if you have too many such defects the thread is liable to break, and down comes your reputation.

And it doesn't have to fall many times before you fall with it. By this time, it is very easy to see that if you go to sleep and let your yarn get bad, you will soon wake up to find that your thread has broken and that you have gone down with the "has beens."

In conclusion, I will say that just knowing what constitutes good yarn and knowing how it should be made, will not make it good if you don't push. So watch your yarn if you would have a reputation worth the having.

Honest Bill (Ky.)

---

The protection of metal buildings in our great factory neighborhoods is a most difficult problem. Not only are weather and wear to be provided against, but particularly gases, and alkali attacks destroy the paint and attack the metal. Perhaps no paint resists all of these attacks as well as Dixon's Silica-Graphite paint, and we quote the following covering a ten years' service of Dixon's paint, received from the St. Mary's Wheel & Spoke Company, St. Marys, Ohio: "Ten years ago the question arose as to whether we would re-side the interior of our building with new iron, as the building was in very bad condition. Upon the writer's suggestion we secured several barrels of Dixon's paint and coated this building. The iron was worn through in many places, caused by the alkalies and gases in this vicinity. A close inspection of this building *after ten years' service* reveals the fact that the iron today is in better condition than it was before it had been coated with Silica-Graphite paint." The Joseph Dixon Crucible Co., Jersey City, N. J., have a valuable little booklet on Silica-Graphite paint which may be had for the asking.

## Management.

EDITOR COTTON:

I have read "Honest Bill's" letter in regard to what's in the name, and I think he hit the nail on the head when he said some overseers liked to be called "Boss" and rule with a heavy hand. "Honest Bill" has taken the step I think ought to apply to all men who have charge of a room, no matter how large or how small, and regardless of age.

I am an overseer in a medium sized carding room and trouble with my help is a thing unknown. I will give some of my rules on the management of help. When operatives are hired and placed, then is the time to instruct them. It is then that they should be questioned and given to understand what shall be required of them.

An overseer should try to select help intelligent enough to perform the duties assigned to them, as upon this largely depends his success as an overseer, as well as the profits of the company. Always, when taking on new help, ask them if they are willing to work and comply with the rules. If they agree to do this, you will have a better chance to call their attention to any failure to do so after they have gone to work, and this can be done in a very mild way, with the desired effect.

Never allow help to get into the habit of coming in late in the morning and at noon. They should be requested to be at their places at work time. The first time they are noticed coming in late is the best time to correct this evil. Always command the respect of those under you by being quick to notice their faults and then correct them at the start. Very often operatives become careless and unruly from the habit of slacking up or quitting their work several minutes before stopping time at noon and night. This can be overcome in an easy and mild way by giving them to understand that they are paid just as much for the last minute's work as they are paid for any part of the day. They should be taught the importance of little things. They should be instructed, not bossed, to keep the bobbins off the floor. Waste of all kinds should be kept off the floor.

The importance of placing help is of great value, not only to the employers, but to the hand himself and to the manager. A poor hand in one place may make an excellent one in another place. Keep in mind that a hand must fit the place. A hand in the wrong place often causes dissatisfaction to all concerned. Some men unfortunately are not, and never will be good managers of help. However, a great many men who are not good managers can, by a little teaching and close observation of human nature and some experience as overseer, but not as a boss, become good managers of help. I want to call particular attention to the fact that the free use of good judgment and common sense is one of the greatest secrets in the managing of help.

Instuctor—Not Boss. (N. C.)

---

The American Textile Banding Co., Inc., who were formerly located at Third and Moore Sts., Philadelphia, Pa., have announced their removal to Hunting Park Ave., and Marshall St., Philadelphia, where they will be able through greatly increased facilities to handle all orders promptly and furnish still greater quantities of the high class products which they manufacture.

## Spinning Room Waste.

EDITOR COTTON:

It is my opinion that while a lot of stress is laid on the word *waste* that a lot of us are apt to get careless or indifferent and not give enough attention to some of the places that cause us many pounds of waste in a year, a few of which I will enumerate.

First, I think it the duty of the overseer to make the operatives in his department understand somewhat the loss in dollars and cents that results in making a few pounds of waste. Some may think this sounds foolish, but let me give an example. After cautioning one of my hands one day in regard to making too much waste, I overheard her make this remark:

"I don't see what the boss is kicking about and making so much fuss over this waste for, the company sells it, so I don't see what they lose by it."

Now if this one operative looked at it in that light, it stands to reason there are others. They look at the word *Waste* as a name applied to a certain class of yarn or product, not at the definition of the word as indicative of dollars and cents loss. After looking through a number of mills, I wonder sometimes if some of the overseers themselves know the real meaning of the word.

Beginning with the second-hand right down through the entire line of operatives, it is up to the overseer to see that they all do their share toward eliminating and cutting down the waste. Spinners are apt to get careless in removing a bobbin from the spindle by catching the bobbin too near the top and if the bobbin sticks a little, their hand slips off causing a snarly top. They should be taught to catch the bobbin in the middle, or if the ring wave is too high, take it from the bottom; and spinners should never be allowed to remove a bobbin with their hands until all oil and dirt from cleaning rolls or stands has been washed or wiped from them.

They should be taught to be watchful and notice any defects in the build of the bobbin before it gets large enough to snarl, and when such defects are noticed, they should notify the proper person that it may be fixed. Also the second-hand, third-hand or fixer, whoever the person may be, should fix it as soon as possible and not put it off and forget it as I have seen them do, and cause the spinner to tell them the second time, as the spinner will lose interest if they don't take enough interest themselves to attend to it right away.

Next we will take the doffers. When the frame is set to doff if it is not stopped as it should be, an excessive amount of yarn is wound on the bottom of the bobbin, which not only goes into waste but takes up the spooler tender's time in pulling it off. When starting the frames, a good many ends may be broken by not handling the wave right to bind the yarn on the bobbin, increasing the chance of making bad piecings, which the spinners will do in their hurry to get all those ends pieced up.

The bobbins should be placed firmly on the spindle when doffing, so that they won't fly up when the frame is started, but not hard enough so that the spinner will tear the yarn to pieces trying to remove the bobbin when piecing up the ends. Doffers are apt to get careless about dropping bobbins on the floor, where some of them are sure to get covered or spotted with oil if they are allowed to roll around.

Cleaners and sweepers also need some attention, as I have seen them trying to piece up ends with their hands covered with oil and dirt, with a result we all know.

If a bobbin of yarn or roving is overlooked on the floor the sweepers should pick it up and not sweep it all over the floor and then pick it out of the pile of waste or sweepings, as it is then too late, as the damage is done.

One more thing that may be of help to some, is in regard to scouring. When the cap bars are thrown back they strike the roving in the creels, leaving spots of oil on them. By making a cloth cover to go from the top of the creel down in between the roving and the cap bars, a lot of this will be avoided and it also keeps the broken roving ends out of the way.

H. A. W. (Mass.)

## A Sanitary Invention.

The rapid strides made in sanitation among cotton mills is really amazing. During recent years, the increased demand for sanitary appliances has led to many inventions, and among these is the Stevens sanitary closet can. This is the invention of an Atlanta man, and is distributed by S. S. Selig, Jr., of Atlanta. It has received endorsement of such authorities as Dr. Porter, Health Officer for the state of Florida, and Drs. Yancey and Bancroft, both of whom are connected with the Rockefeller Foundation. It has been installed in many mill villages on the guarantee that it is sanitary in every respect and costs less in the long run than the maintenance of open lard tubs. This appliance met with prompt approval and is now in use in many cotton mills and municipalities.

In construction this appliance is very simple. It consists of a top joint, which is screwed underneath the privy seat, a sliding collar, bottom can and cover. The sliding collar is slipped into the top joint and then pushed down over the top of the bottom can. The cover is fastened over the privy hole, thus making the closet absolutely proof against all disease carrying insects. Ventilation is provided in the top joint, so that most of the disagreeable odors are swept away.

---

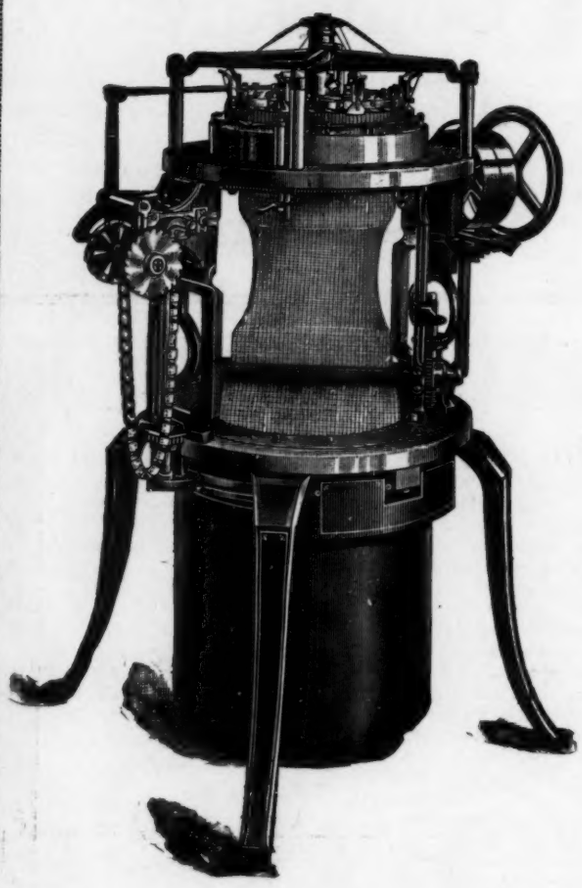
Arabol Gum G., one of the staples of The Arabol Mfg. Co., 100 William Street, New York City, when used in the pure state gives excellent results in light and heavy sizing of cotton warps. It is recommended for use on export goods, such as China shirtings, drills, denims, coarse and medium goods, etc. Mixing it with starch gives it more volume and adhesive power and adds elasticity and tensile strength.

---

The Schadewald Mills, haircloth manufacturers, Philadelphia, Pa., are making a considerable addition to their present plant. While this concern is primarily engaged in the manufacture of upholstery goods, it also does commercial work for the trade in the way of bleaching, finishing and dyeing. A new dye house is in course of erection, and forty more looms have been installed on the upholstery work as well as sixty-four on the bed-spread output. This firm also recently installed 171 new looms on haircloth work.

# KNITTING SECTION


## Circular Rib Knitting Machinery



**PRODUCTS**

Underwear, Sweaters, Cuffs with Cut Welt, Selvage, or French Welt, Mantles, Collarettes, Torques, Golf Caps, Hosiery Tops, Skirts, Borders, Corset Covers, Button Stays, Mittens, Bandages.

**FEATURES**

Rectangular Slots, Hardened at Bottom, Sectional Caps and Cam Rings, Hardened and Ground surfaces, Sensitive Take-Ups, Two Speed Drive, Dogless Attachment, Positive Pattern Mechanism, Needle Guard and Protector, Automatic Stop Motions, Electric Cloth Cutters.

**CHARACTERISTICS**

The characteristics of a knitting machine, like those of an individual, are determined by its origin and history; just as knowledge of the individual's family, schooling, and early life are desirable for the formation of an idea of his characteristics, so knowledge of the plant, personnel and ideals involved in the construction of the knitting machine are necessary for an understanding of its merits. Investigate the origin of our knitting machinery.

## Wildman Mfg. Co.

**ESTABLISHED 1889** **NORRISTOWN, PENN.**

# MERCERIZED YARNS

*Dyers—Bleachers—Gassers*

**Dyers of**

*Colors Fast to SUN and BLEACHING*

## ABERFOYLE
## Manufacturing Company

**CHESTER, PA.**

**402 Morris Building**
**PHILADELPHIA**

**CHICAGO**
**746 Insurance Exchange**

Upco QUALITY Since 1881

## *Pastello for Your Offices?*

Are you forcing your office people to work in an office that is dark, dirty and unsightly? Are you receiving your callers in an office that gives them the impression of being filthy, inefficient and unbusinesslike?

Pastello would flood your offices with daylight, your office people would work at the maximum efficiency, simply because they can see better, they can do more work and better work. They will take more interest in maintaining cleanliness and efficiency. And your callers gain a lasting impression of your inviting and businesslike office.

Send for this free book, "Light Without Power." It will tell you all about Pastello and show how more daylight means more profit to you, how it reduces lighting bills, increases health of employees, etc. **Ask for it today on a post card.**

## The Ullman-Philpott Co.

*Industrial Paint and Varnish Laboratories*

**Cleveland, : : : : Ohio**

# Twelfth Annual Knit Goods Convention

The twelfth annual convention and exhibition of the National Association of Hosiery and Underwear Manufacturers was held at the First Regiment Armory, Philadelphia, May 15th to 19th inclusive. The machinery exhibit opened on the morning of May 15th and continued throughout the entire period, while the convention proper, opened on the morning of May 16th and lasted for three days. A goodly number of knitters were present from all sections of the country, the South being particularly well represented from the standpoint of numbers.

### Tuesday Morning

the first session was called to order at 10:30 A. M. in the Veteran Corps room by President P. C. Withers, who introduced the Reverend Dr. H. Watson Barras to pronounce the invocation.

Mayor Thomas V. Smith of Philadelphia was scheduled on the program to deliver the address of welcome, but owing to it being election day in Philadelphia he was unable to attend and he sent as his substitute, Hon. Joseph McLaughlin, director of supplies. This very cordial welcome address was responded to by Harold Lamb of the Union Manufacturing Company, Union Point, Ga., who was the first president of the National Association.

The next speaker on the program was Edward James Cattell, city statistician of Philadelphia and who is an ever welcome speaker at these conventions because of his splendid optimism and droll manner of speaking. He addressed himself to the

### Industrial Benefits Arising from the War

and spoke in part as follows:

Your great organization is meeting today at a critical time in the history of the republic—critical in the sense that great issues are involved and out of these issues the republic may register either a tremendous advance, or our best hopes will be shattered by a series of reverses. As an American I welcome the crisis, because I have an unshaken and unshakable faith in the sound common sense of our people. I believe we have a higher level of intelligence in America than anywhere else in the world, and I think there is no room for doubt that our commercial affairs are led by the ablest leaders to be found anywhere on the face of the globe.

The war in Europe, which has continued its terrible waste of life and wealth during the year that has elapsed since our last meeting, is beginning to show signs of waning, and I believe that this year will register its close. I had expected a much shorter war, and I believe history will state that the war practically ended with the failure to reach Paris and the check administered at the battle of the Marne, since which time nothing seems to have been accomplished except the destruction of life and property.

Out of this war America, before peace is declared, will, I believe, secure the transfer of at least five thousand million dollars of wealth from the old world to the new; that is, we will either have canceled that much of our obligation or old debt to Europe, or we will have in hand securities of Europe which, added to the old debt canceled, will aggregate this sum. If I am right in this estimate, in this one item alone America will secure power to retain within the country, for spending purposes at home, at least two hundred and fifty million dollars heretofore sent abroad annually to liquidate interest on indebtedness. This is equivalent to $2.50 for every man, woman and child in the United States, and certainly represents a large buying force—a tremendous gain in national capital. Moreover, the war orders coming from Europe have enabled the country to solve a very great problem, in the shape of our unemployed, confronting us at the outbreak of the war—a problem in the solution of which our whole fabric of government might have received a distinct shock, growing out of certain necessary repressive measures where force is used to control violence during strikes. Every conflict of this character between the armed forces of government in a nation whose rulers are elected by popular vote, puts a tremendous strain on the government and is a shock to credit everywhere.

War demand has also taken up the slack in many lines where over-production prevailed, and has thus removed another problem from our consideration. War demand has also forced America to re-embark in many industries abandoned along manufacturing lines, and also to begin the cultivation of new agricultural products neglected in the past.

Again, the war has opened up the way for America to market over seas that surplus which her great industrial machine produces each year—an over-production which has only been kept in hand, in times past, through the incident of strikes or forced curtailment of production; both means dangerous in their use to our form of government and to the stability of commercial conditions.

In connection, however, with this new opportunity in foreign trade, we have in working order today a currency and banking system which, for the first time in the country's history, makes it possible for America to grant the long credits necessary in foreign trade and to advance the capital necessary for the preliminary expense of establishing that trade.

There is another feature of importance, it seems to me, in the situation. This war in Europe has covered a wide area and has destroyed, during its progress, an immense body of equipment absolutely necessary to life as we understand it in this twentieth century. When peace comes, that which has been destroyed will, first of all, have to be restored before European civilization can come back to the normal and be in a position to play a very important part in the outside trade of the world. The whole railway system of Europe has been disorganized and permanently injured for commercial uses through its utilization for war service. Bridges innumerable have been destroyed; not only those in connection with railway transportation, but those which complete the wonderful road system of Europe. And that road system has been demoralized by heavy war traffic and by the incident of battle at many important junction points. Here you can see an immense body of work which must be performed in Europe before normal conditions are restored, and this work will make a tremendous demand on a body of European labor already depleted

through the savagery of war. The demand, moreover, is an absolutely new demand—one which did not exist before war times, and therefore the demand for labor will be supplementary to that demand existing in normal times prior to the war.

A still further demand for European labor will come after peace is declared, I believe, through the opening up of entirely new territory—territory which, owing to racial or religious feuds had been split up into a number of turbulent sections, and because of such turbulence, undeveloped. When peace comes, many questions which have disturbed Europe for centuries will, I believe, be settled; and we shall have a tremendous area of new land, a number of large bodies of population, added to the world's great army of workers and producers. But this new territory will need the preliminary development, and that preliminary development will require the services of an army of labor. This army of labor in this new territory cannot be supplied wholly by the population resident therein: it must be led, guided, supported by men of training and by skilled labor brought from other countries. In short, to sum up, I feel that Europe will be confronted for several years after peace, with an entirely new demand for labor along entirely new lines, and that European labor will be fully occupied in Europe. Not only need we have no fear of an influx of foreign labor in America, but we shall have less to fear than we expect from the great production of Europe along the old industrial lines, because these lines will suffer in the way of labor shortage from the competition of new demand.

America, then, should be optimistic, for out of this great war abroad there has come to us several substantial benefits. More important, however, than this financial gain to the republic, is a gain which I seem to see in the attitude of our own people toward their own form of government. We have been cursed of late years, with a great many citizens who believed European ideas and ideals far in advance of American—men who had really lost faith in a democratic form of government. Our whole legislation of recent years has been based on the European ideas of compelling people to do right—of force, of state control, of state interference in every line of life: the basic principle of our government—self-control—has been ignored, and we have been steadily drifting away from old democratic ideas and ideals. For eighteen months or nearly two years, our people have been watching the devastation abroad—reading about and thinking about a slaughter of life and a destruction of property without a parallel in history. They have come to realize, out of this terrible lesson, the danger inherent in a monarchical form of government, where one or two men can plunge a continent into a welter of blood and pain and tears: they have come to realize that perfection in certain lines of administration which impresses the visitor in the foreign country is obtained at too high a price; and I believe we in America today, are more firmly convinced that our government is the only government under which man can develop the best that is in him; that we are today more loyal to the ideas and ideals of the founders of the republic than we have been at any period since the formation of our republic.

I believe that America has found its soul; that we have come to think in continents rather than countries; that we have outgrown old provincialism, and that under the shadow of this great sorrow over seas the Republic of the United States has become not only the richest, but the most powerful nation on the face of the earth.

Of minor importance, and yet affecting distinctly the present outlook, are certain facts which may be noted here. Our recent increase of wealth from over seas has not bred that extravagant habit in the people which would have resulted in ordinary times from such an addition to our national purchasing power. The fact that it came as a result of a war bred caution in the people benefited, and they have not become reckless because they have regarded the influx of new business as a temporary matter, a windfall and not a permanent addition to income. We have been instituting new economies in all lines of manufacture. We have been finding a new way to utilize millions of acres of land heretofore classed as arid, moving it over into the area of arable and productive. In learning to think of other peoples and to study their conditions, I believe the whole nation has come into a new realization of their own good fortune, have come into a new appreciation of the many comforts they took as commonplace matters. I believe that nine-tenths of the people are today more appreciative of the little things that add comfort to life and happiness to the passing hour than they ever have been at any other period in the life of our republic. While the high wages received by certain sections of our great army of labor, in certain limited lines of industries, may cause some little trouble, I think this evil influence will be more than offset by the new spirit of contentment in the great mass of the people, and the new faith in their form of government learned through the bitter experience of their kindred over seas.

I am, therefore, still among the optimists, still believing that America is destined to world leadership and that, in playing leader for the whole world, this republic will justify the faith of the founders and the hopes and the prayers of those who today live and labor that the dreams of other generations may come true.

The reading of the minutes of the 1915 convention were dispensed with and the annual reports of the secretary, treasurer and board of directors were read. Then came the

## Annual Report of the President.

by President P. C. Withers of the Illinois Knitting Co., Mount Vernon, Ill. President Withers spoke in part as follows:

It is probably safe to say that never in the history of the knit goods industry has it been so easy to sell goods and so hard to get the necessary materials with which to manufacture. The European war is the cause of this condition. It has put a wall around this country which shuts out imports of knit goods more effectively than any tariff wall possibly could. It also shuts out the much needed imports of dye stuffs, needles and yarn.

The inability of European manufacturers to take care of their regular customers in South America, Australia and other foreign countries has also opened up new markets, particularly in South America. This combination of conditions has caused a real shortage of knit goods for domestic use.

It is quite evident to us as manufacturers that we must have a national government that believes in the principle of protective tariff for American industry. Then we as manufacturers must be broad minded enough to give the indus-

tries from whom we buy our supplies enough protective tariff to make their business a success; this applies particularly to the manufacturers of dyes, chemicals, needles, the finer counts of cotton yarns and artificial silk.

Proper legislation is also needed to encourage the development of an American merchant marine and the extension of our own banking system to foreign countries.

We want to make our country self-contained, but not self-centered, the ability to produce everything we need for our own use and the equipment to take our surplus products to the furthermost ends of the earth and trade with all nations.

It is my opinion the first thing necessary is a permanent non-partisan tariff commission. It would be the duty of this commission to make two reports on every tariff schedule. One report would show the correct amount of tariff necessary if the measure is to be considered for revenue only. The other report to show the correct tariff to properly protect American manufacturers. It would then be my hope that we might always have a majority in Congress who would believe in adopting the report favoring protection to American manufacturers regardless of whether the individual member called himself a Democrat or a Republican.

P. C. WITHERS RE-ELECTED PRESIDENT.

There are other things that we as an association can work for, among them being the anti-dumping laws so that all foreign countries would be prohibited from selling goods in this country cheaper than they sell the same goods in other markets of the world.

A change in our patent laws is another thing needed so that foreign inventors seeking the protection of our patent laws would be compelled to manufacture in the United States their patented products to an extent at least to supply the domestic market.

The right of the manufacturer to fix the resale price on his trade-marked goods should be granted. It is the only way unfair competitors can be eliminated and the consumer protected. We all know the possibility when it comes to manipulating yarns in the manufacture of knit goods, particularly in woolen goods. It is only fair to both manufacturer and consumer to grant the former the right to maintain resale prices on his trade-marked merchandise in order to "keep the quality up."

We are to have next Thursday morning at the Manufacturers' Club a program called industrial preparedness. It is my opinion that the evolution of mankind is at this very time—this day— this hour—this minute making more rapid progress than ever before in the history of the world. A good share of the cream of the earth's people are already in the melting-pot. Will it be our fate as a nation to stand on the edge and help to bring order out of chaos or will we be drawn in and add to the fury of the flames? 'Tis a question no man can answer, but may we be first, last and always true citizens of the United States and men with red blood in our veins to do willingly whatever is necessary to assist in bringing liberty to men; and peace on earth.

At the close of the president's address, committees on resolutions and nominations were appointed. Two papers were on the program on the dyestuff situation; one by A. L. Norton, treasurer of the National Aniline and Chemical Co., New York, and another by H. A. Metz of the Farbwerke-Hoechst Co., New York. President Withers announced that these gentlemen were unable to be present. After a few announcements the meeting then adjourned until Wednesday morning.

### Wednesday Morning

it was nearly eleven o'clock before the morning session was called to order, but the attendance was much larger than on the previous day owing to the arrival in the interim of many knit goods manufacturers from different sections.

The first paper on the program was an address "The Distributor," by D. J. Callaghan, president of the Jobbers' Association of Knit Goods Buyers. In the unavoidable absence of Mr. Callaghan, Benj. Gibbs, ex-president of the association of Knit Goods Buyers, read the address prepared by Mr. Callaghan, extracts from which follow:

The distributor brings to this convention a message of good cheer, happiness, hope, increased sales and better profits. He is living in perfect harmony with the manufacturer, retailer and even has room in his magnanimous heart for the catalog house and scalper.

The distributor's outlook was never more optimistic, never so full of good promise, magnificent advance business and low stocks. He is brimful of enthusiasm and, as someone has wisely put it—"Enthusiasm is the outside evidence of inside belief."

Have you noticed, in the past months, that more department men and salesmen have been addressed by their first names than is customary? That's a very good sign that merchandise is scarce.

The distributor today is bigger, broader, more active and possesses more enthusiasm than ever before. He is bound to endure, as one of our rock-ribbed institutions in the business world because he presents the best method of distribution.

The consuming public, is every year, becoming more intelligent and better trained in buying. This deserves the jobbers' serious consideration, as only by this can a successful business be rounded. We hear a lot of talk about

manufacturers, jobbers and retailers, but after all the consumer is *King*.

What the consumer desires, makes or unmakes the manufacturer, jobber or retailer. Whoever wins his confidence, succeeds. Whoever loses it, fails.

In conclusion, let me ask all here present, to support our Association in the propaganda which it is now conducting against the evil of fixed retail prices on knit underwear. Our association is every week contributing articles in twenty odd trade papers, setting forth the evils of it. It is a serious problem for manufacturer, jobber and retailer, and we earnestly ask your aid.

At the conclusion of this paper Mr. Gibbs supplemented the written address with some personal remarks. He was followed by Mr. Fernley, secretary of the Wholesale Dry Goods Association, who also spoke briefly. The next address on the program was entitled,

## The Manufacturer

by Past-President Chas. E. Leippe. Mr. Leippe condemned various trade abuses, and extracts from his interesting talk follow:

If I were to give you a definition of the word "Manufacturer," particularly the Hosiery Manufacturer from Secretary Redfield's dictionary, I think it would be something like this: "A man or a firm engaged in business, who knows nothing about his business; an incompetent; one who is extravagant and wasteful; trying to manufacture with antiquated machinery; not satisfied with 100 per cent profit; but expecting a protective tariff to make a millionaire out of him at least once a year."

As a hosiery manufacturer I want to say in the language of the day—"Percy, this is all wrong."

Let us take a retrospective view of the manufacturer in general. Not in the very far distant past the manufacturer in a community was looked upon as being a public benefactor. Every factory brought into a community was hailed with joy and considered of immense benefit to that community, because it gave employment to labor, helped to enlarge and build up that immediate village or town, thereby increasing the population and wealth.

The legislative representatives of these communities, both state and national, would call upon these manufacturers to get their views upon any legislation that might come up during the session that might affect their interests either favorably or adversely. The interest of the manufacturer was considered the paramount interest of the community, because the manufacturer made the community and not the community the manufacturer. If there were no manufacturers there would be no communities, consequently the interests of the manufacturer were vital to the very existence of the communities themselves.

Every lawmaker who, by his vote and influence, could have a law passed that would be favorable to the manufacturer of his community (thereby increasing the size of the manufacturing establishment—and every increase meant more employes, and more employes always meant a larger community), was hailed as "a good and faithful servant," and was returned time and time again to serve his constituents either as state or national legislator. No laws were passed antagonistic to business interests—except tariff tinkering. This would have been considered almost treason and woe unto the legislator who would have introduced such a bill.

Of course, I recognize the fact that in those good old days the manufacturer—in a large number of cases—was an individual or firm who knew half of his or their men by their first names, often working at the bench with them. This familiarity brought employer and employee very close together. This, however, does not alter the fact that employees worked harder and longer by the side of the boss, when the boss worked with his hands instead of his head, as he now does.

These were the conditions under which the United States of America became the leading manufacturing country of the world; and today, through its manufacturing is the holder of the largest amount of gold of any country in the world. Not through our agricultural, our mining, or our natural resources, great as they are, but through our manufacturing industries have we attained this position.

Now if these things are true—and we know they are—

PAST-PRESIDENT CHARLES E. LEIPPE.

the question arises, have we reached the apex of our manufacturing greatness? The conditions stated were those of the past. How about the manufacturer of the present and future? Is the manufacturer who comes into a community still looked upon as a public benefactor? I am afraid he is not, but rather something for the community to prey upon. Will the member of the state legislature call upon him to consult with him in reference to such laws that might be just and equitable to enable him to conduct his business successfully? Not much. These are the days that the men who made the country great through the great manufacturing enterprises are a prey to every whim and caper of paid secretaries of societies established under the auspices of well-meaning, misguided old maids, and people in their dotage who pose as philanthropists who are unknowingly blocking the wheels of progress. They again are aided and abetted by politicians who try to curry favor on a popular wave; each state trying to pass laws a little more stringent than the other, and each welding the shackle a little tighter around the manufacturer.

Why should the people of a sovereign state not all be used and legislated for alike? During the 1915 session of the

state legislature of the State of Pennsylvania the Cox Child Labor Bill was passed. This was the pet bill of Governor Brumbaugh, drawn up by the National Child Labor Committee, and was driven through the legislature as no governor ever undertook to have his pet theory driven through the legislature before. His local option bill was defeated, then all his fury was spent on the manufacturer who employs minor labor. This law makes it impossible for a child between 14 and 16 years of age to work over 9 hours per day, one day of 8 hours each week must be spent in a vocational school, which under present working conditions will give a child between the ages of 14 and 16 years 41 working hours per week.

The manufacturers of Pennsylvania are under the supervision of the Factory Inspection Department of the state. Each factory is visited regularly by inspectors and any infraction of the laws are punished. The Governor insisted upon the 9-hour feature of this law on account of the humane feature of it. If 9 hours is long enough and exhausts children in factories or stores, why should it not have the same effect on the child of the farmer? The farmer can work his child on the farm at any age (not 14 to 16) as many hours as he pleases. Can it be possible that the country air prevents the child on the farm from becoming tired with from 16 to 18 hours of toil if the farmer so wills? Or is it not rather true that the farmer would not stand for any such nonsensical legislation? The Governor well knew he could not foist such a law upon the farmer. But I say, why make fish of one class of citizens and fowl of the other? Why should the manufacturer be made the scape-goat? Only because the farmer has more votes than the manufacturer.

Two years ago in my address as president of this association, I told you it was the business of every manufacturer to take an active interest in politics. How well you heeded my advice you know better than I can tell you. What are we going to do about it now? Will we sit idly by and let things take their own course, and then lament the deplorable condition in which we find our business? Only in union is there real strength.

I would suggest as a beginning that every manufacturer join the Manufacturers' Association in the state in which he lives. If you have no state association, join your local association. If you have neither, organize one.

Manufacturers, you have waited much too long already. A year after the war in Europe is over some of you who are now riding the high wave of prosperity (brought about by artificlial means) will find your business in a deplorable condition, with no preparations made to meet the changed conditions. The business of this country will get such a jolt as it has never had. We today are lulling ourselves to sleep with the idea that it will take Europe a long time to get in a position to interfere with the trade we have. This is food for thought. Take it with you. Digest it well and act accordingly.

The next address on the program was on that, at the present time, very interesting subject of

## Knitting Needles

by C. Walker Jones of the Beckert Needle Supply Co., of Philadelphia. Mr. Jones spoke extemporaneously, and while he was unable to assure the members present that the needle situation was improved to any great extent, he earnestly assured them that he believed the situation would improve and that it would be more in favor of manufacturers in the future. He urged upon the members of the association the necessity for cooperation with the needle manufacturer and declared that needle manufacturers were doing all they could, but that the wire situation was growing more serious from day to day, although there were some indications that the situation was becoming somewhat easier.

President Withers then introduced W. B. Holland, Publicity Agent of the American Fair Trade League, who spoke in favor of the maintenance of retail prices.

Chairman D. L. Galbraith of the Resolutions Committee, then introduced the following resolutions, which were unanimously adopted:

*Whereas,* The American knit goods manufacturers realize that the present European war has prevented the importation of foreign knit goods for the past two years, and during that period the industry has prospered to a greater degree than ever before, giving regular employment to American labor at steadily increasing wages, and

*Whereas,* Soon after the declaration of peace under the present tariff this country will be flooded with knit goods produced by the cheap labor of Europe that will be materially increased by those partially incapacitated by the ravages of war, proving a menace to American labor; therefore, be it

*Resolved,* that we, The National Association of Hoisery and Underwear Manufacturers in convention assembled, respectfully petition Congress to make such revision of the present tariff laws that will afford adequate protection to American knit goods manufacturers and their employees.

*Whereas,* we have direct information from one of the largest importers of German dyestuffs that there are available for importation into the United States 15,000 tons of aniline dyes, and

*Whereas,* we have been advised that with the cooperation of our State Department 15,000 tons of dyestuffs can be secured, which in a measure, will relieve the present dyestuff famine; therefore be it

*Resolved,* that we, the National Association of Hosiery and Underwear Manufacturers in convention assembled, petition the State Department to use their best efforts to secure the safe delivery of the 15,000 tons referred to and any other available dyestuffs and chemicals.

*Whereas,* the present shortage of knitting needles is of serious import to every knit goods manufacturer, and

*Whereas,* the question is one of many angles and phases which require careful investigation; therefore be it

*Resolved,* that the President appoint a Committee of five with power to take such action as they deem necessary.

Chairman Chas. E. Leippe of the Nominating Committee then presented the names of the existing officers for re-election, and by a unanimous vote they were chosen for the coming year. These officers are as follows: President, P. C. Withers, Illinois Knitting Co., Mt. Vernon, Ill.; first vice-president, Edward Blood, Sr., John Blood & Bro., Philadelphia; second vice-president, T. H. Johnston, Knoxville (Tenn.) Knitting Mills Co.; secretary, C. B. Carter, Philadelphia; treasurer, Robert C. Blood, John Blood & Bro., Philadelphia. The Board of Directors also remain unchanged.

A feature of the morning program which was taken up under the subject of miscellaneous business, was a brief

discussion of export trade conditions. Past-President Fred W. Simons, ably seconded by Mr. Leippe, criticized those manufacturers who delivered merchandise for export that was not up to specification. Mr. Leippe said he was informed that comparatively large quantities of goods had been sent to South America, which had been rejected. He declared emphatically that manufacturers who were trying to build up foreign trade were pursuing a short-sighted policy by using such methods, and that the unfortunate feature of the whole proceeding was that it not only injured the whole knit goods industry of the United States, but it injured the whole foreign trade of the United States in all branches because it developed within the minds of possible purchasers a feeling of doubt as to the reliability of American firms. This is a serious point in the export proposition and was ably touched upon by President Vanderlip of the National City Bank in his address before the National Association of Cotton Manufacturers in Boston, which appears elsewhere in this number of COTTON. At the conclusion of this discussion the meeting adjourned.

### Wednesday Afternoon

the rival baseball teams of the Philadelphia Cotton Yarn Salesmen's Association and the Textile Base Ball Association of New England, played an interesting game at the Strawbridge and Clothier Field, which was won by the Yarn Salesmen with a score of 11 to 7.

### Wednesday Night

the Philadelphia Yarn Salesmen's Association tendered a shad dinner to their guests at the Hotel Adelphia, at which there were approximately 150 present. The banquet was informal, and after a number of short talks the evening concluded with a vaudeville entertainment.

Thursday was to be "Industrial Preparedness" day, and the meeting on

### Thursday Morning

was held in the big auditorium at the Manufacturers' Club. While the meeting was somewhat late in starting, the attendance was remarkably good when President Withers introduced Albert N. Hogg of the Corn Exchange National Bank of Philadelphia, who made a forceful talk on the current issues of the day and the necessity of industrial, as well as military and naval preparedness. He spoke in part as follows:

Preparedness, a subject as old as the human race itself, has taken on a new meaning. The first law of nature, in its relation to national life, is brought forcibly home to us by the European war.

After all, the fundamental principles of preparedness are a part of our every-day existence. They are ever taught to us by precept and example. In truth they are instinctive rather than acquired. Principles never change —conditions do. Economic evolution, if not revolution, is ever the fate of growing people. A new order of things has been thrust upon us.

Economically we have been gradually changing from a country of undeveloped resources to one of manufacturing activity. This drift is shown clearly in the figures of that branch of industry represented by your association.

The cotton goods industry which is somewhat kindred to that of knit goods, furnishes an illustration of the wrong way of adapting ourselves to this changing order of economy. We produce two-thirds of the world's supply of raw cotton, but contribute only 5 per cent to the total amount of the world's export of cotton manufactures. The obvious lesson is that too much of our raw material is going abroad and too little of our manufactured product.

In competing for foreign markets, the American knit goods industry must be up against a heavy handicap in the matter of wages alone. It would appear from figures furnished by the Department of Commerce that in 1909, the labor cost of producing $200,000,000 of knit goods was $52,000,000, or about 26 per cent. Now if this is only 50 per cent more than what it cost the German manufacturer, and this I suppose is a conservative estimate, it means a handicap of 9 per cent on the cost of production which the manufacturer here must overcome in some way before he can meet his German competitor on an equal basis.

How are we going to meet this situation?

Certainly not by making economical and business problems the football of politics! Not by destroying and dismembering the large industrial units which have increased efficiency and lowered the unit of cost production! Not by tariff legislation which is supposed to be based on the difference between wages here and abroad and is actually a misfit adjustment of schedules calculated to satisfy the different demands of hundreds of constituencies. Here again we find an apt illustration from knit goods statistics.

On practically the same classes of goods the following comparisons are shown between the schedules of the tariff laws of the two great parties:

Aldrich tariff, 1909, stocking, 30 per cent; Underwood tariff, 1913, 20 per cent; decrease, 33⅓ per cent of previous rate.

Aldrich tariff, 1909, underwear 55 per cent; Underwood tariff, 1913, 30 per cent; decrease 45 per cent of previous rate.

Can we conceive of more unscientific legislation than this? Is it possible that our tariff schedule was so far out of the way that it required a 45 per cent readjustment? And what is true of the tariff applies in a measure to the whole range of legislative activity.

We pass a cold storage law in this state, the result of which is to drive the business into other states with absolutely no compensating advantages to the people themselves. Why?

Why did Congress pass a banking law and ignore the banker until the American Bankers' Association and a sturdy Senator, against his own party measure, fought for certain amendments and changes in the bill that saved the country from some crude and dangerous financial legislation?

Why have there been some 85 rural credit bills introduced into Congress, most of which embody the unwise feature of Government aid to the farmer, and why has the measure which has just passed the Senate and which has the President's endorsement been violently opposed by the most eminent authorities on the subject?

Why has Congress created seamen's laws which normally make it impossible to operate boats under American registry in competition with vessels under foreign flags—and why on the top of this with the laudable object of establishing an American merchant marine, is the Government going into the business on its own account? What good will 34 government owned ships be if the laws make it unprofitable for private capital to embark in the business?

Why is a commission created to regulate interstate traffic, and thereafter one-third of our railroad properties go into receivers' hands?

So we could go on ad infinitum. Why?

The answer is because the general public has not understood—because the politicians have catered to this misunderstanding—because the framers of our laws too often have no expert knowledge of economic problems, and because the business man politically has been asleep at the switch.

Then there is the question of individual efficiency.

The industrial commission finds that a very large proportion of all the concerns in this country knows nothing about cost analysis. But because of what I have seen in close contact with the individual concern in many lines, I am not willing to admit that American industry cannot boast of examples of efficiency unexcelled by any in Germany or anywhere else.

Time was when the product of our New England mills could not begin to compare in fineness of quality with the cotton goods turned out in the Lancashire district in England, the largest cotton manufacturing center in the world. Today the quality of the New England product compares favorably with the best in the world.

But manufacturing efficiency alone would not seem to be enough. The great struggle for commercial supremacy will be determined without our own borders as well as within them. This then is another phase of the problem.

Certainly the struggle for outside markets presupposes that we will adequately protect our forty billions of dollars of domestic trade.

The co-ordination of the legislative, commercial and executive departments of the Government with private enterprise is nowhere so necessary as in developing and holding foreign trade. American citizens abroad must be respected. It is important alike in building trade and in protecting concessions granted Americans in foreign countries.

Universal laws and the lack of governmental cooperation are working against the exporter. Fortunately the Federal Reserve banking law will be a distinct help in our international financing. But this won't help us to fight the subsidies which foreign governments give to private enterprise and the foreign trade combinations which are absurdly prohibited under our trust laws. Then our commerce has to pay tribute to foreign vessel owners—overcome the disparity in wages, build up the use of dollar exchange, adjust the handling of foreign business to suit the peculiar customs of other people and become a loaning instead of a borrowing nation.

These handicaps are insurmountable if we must depend upon industrial efficiency alone to overcome them. We must have legislation to help business and to assist in facilitiating the movements of commerce—and we need legislation, and need it badly, which will expedite legal procedure. The American Bar Association states that 53 per cent of all cases tried by the highest courts of the States and United States involve questions of practice and procedure and very properly adds that no business on earth could exist under such a condition. Truly an impressive example of lost motion!

Yet through all the maze of complex problems ahead we are moving in the right direction. Laws have been created which are epoch making in their beneficient possibilities—one of the best examples is the trade acceptance as provided for by the Federal Reserve Act. I refer to it because it is destined to largely assist in doing away with the open account system of selling goods and its attendant evils. Every business man should become acquainted with the advantages of the trade acceptance and help in its general adoption.

Prosperity due to the war, higher wages, superabundant supplies of gold and the release of reserves under the new banking law with consequent credit expansion—all this means that the cost of production in this country will probably be higher than the rest of the world. We should guard against inflation and over-expansion, especially the manufacturer supplying war demands, for we know not when a sudden readjustment of the present abnormal situation may come upon us. Forewarned is forearmed and a recollection of conditions before the war when the still business (that trade barometer) was operating at 50 per cent of capacity—when 300,000 idle freight cars clogged our railroads—should give us pause.

The lesson which as it appears to me, should be drawn from an analysis of present political and business conditions is that the business men of this country are, as American citizens, confronted with a duty which they cannot afford to sidestep. They must make their influence felt in no uncertain way in shaping proper business legislation. They must see to it that laws are framed by men who understand what the laws are for. Through their trade organizations, chambers of commerce and all the facilities at their command, there should be a concerted movement to cleanse our politics, give us wise business laws, cement the relations of the employer and employee by a spirit of cooperation and mutuality of interests, promote methods of business efficiency and beyond all raise the standards of American citizenship above the dollar mark.

President Withers then introduced the Hon. Charles N. Fowler of New Jersey, who delivered a forceful and eloquent address on the preparedness proposition, referring incidentally to the protective tariff principle in its relation to the dyestuff situation, and urged his hearers to remember that it was their duty to stand for protection. He believed that the American market should be reserved for the American manufacturer, and rather warmly criticized Secretary Redfield for the theories he has been forcing upon the American people.

Mr. Fowler denounced the Underwood Tariff Bill and cited many pernicious effects arising therefrom. He strongly urged the immediate revision of the tariff in order to protect home industries, and stated that he believed with such a bill in operation a tariff commission would be most effective. He did not favor a governmental merchant marine, although he believed an American merchant marine necessary to the success of the country's commercial interests.

The next speaker on the program was Senator Boies Penrose of Pennsylvania, who was greeted with profound applause. He said in part:

The ideal condition, industrial, social and economic, in the civilization of the twentieth century in the United States is one where agriculture prevails and farming is prosperous and where in every town or village there are moderate sized industrial establishments to furnish employment to men

and women. Hosiery and underwear and other textile industries, to a remarkable degree fit into this scheme of society, and hence these industries above all others should be encouraged and promoted because of their beneficial bearing on the social conditions of the community.

The textile industries to a peculiar degree are menaced by free trade legislation. Above all other industries they require a protective tariff. After enjoying extraordinary prosperity for eighteen years, under the Dingley Law and the Payne Law, both protective tariff laws, the country again experimented with free trade. It is well known that the results were felt immediately and that we were just approaching the precipice and speedily would have witnessed the most disastrous period in the history of the American republic had it not been for the war in Europe. This war, of course, resulted in an embargo, to some extent, upon importations, and for the time being we have been relieved from the menace of free trade. Everyone, however, is impressed with the thought that when the war in Europe is over there will be a resumption of conditions similar to those prevailing before the war began and unless prompt measures are taken the hosiery and underwear manufacturers of the United States will face a prospect most undesirable to contemplate.

At the close of the address of Senator Penrose, President Withers introduced Chas. E. Tryon of the Philadelphia Chamber of Commerce, who stated that Philadelphia will have a building available for the exhibition next year, containing 113,000 square feet of floor space on one level. This speaker was followed by Hon. Geo. E. Datesman, director of public works of Philadelphia, who confirmed the statement of Mr. Tryon in regard to an exhibition hall.

Edward Kretz, representing the Chamber of Commerce of the United States, was then introduced, and told in a graphic way what this organization of Chambers of Commerce and industrial associations were doing to influence legislation and bring about a better condition among the business interests. At the close of Mr. Kretz' remarks, the meeting was adjourned.

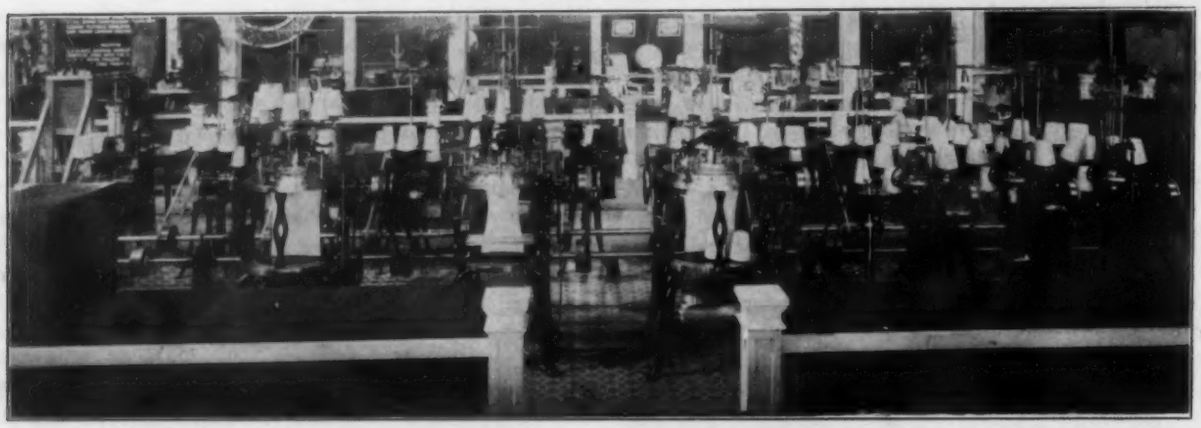
### Thursday Evening

the annual banquet was held in the Scottish Rite Hall, and this was followed by the usual vaudeville show in the Parkway Building across the street.

The machinery exhibit hall was crowded to the point of overflowing, and many prospective exhibitors came in too late to receive accommodations. There were, however, more exhibits of yarn houses than in any previous year, and there were a number of machinery people who were noticeable by their absence. The promise of a much larger exhibition hall next year will doubtless influence many prospective exhibitors to be present, who have heretofore stood aloof, and it is evident even to the most casual observer, that the size and number of the exhibits are increasing from year to year, being only limited by the allowable space in the exhibition hall.

### Among the Exhibits.

Scott & Williams, Inc., 88 Pearl street, Boston, had a complete exhibit of their system of hosiery machines of various types and gauges. In addition to models B, Q, O, F and G, which are so well known as to need little further description, embracing not only plain machines for string work and hand-transferred hose and half hose, but the "anti-run-back" and turned welt hose and half hose made without a transfer, they also exhibited their new machine for women's hose for making a fashioned welt, which they designate as their model K. This machine produces women's hose with an inturned knitted welt, similar to that produced on full-fashioned machines. It has all the features of the other models, each stocking being dropped from the machine complete, except for the looping of the toe. It is fitted with five yarn-changing fingers, inserts an "anti-run-back" course, and, the welt being knitted on the machine, has all the elasticity of the fabric and may be made as wide as desired. Consequently this machine not only makes a perfect seamless stocking for women, but produces this stocking at greatly reduced cost. The machine is very simple in its construction, and functions so satisfactorily that it may be operated with no more difficulty than the ordinary plain machine of the revolving cylinder type.



THE DISPLAY OF SCOTT & WILLIAMS, INC.

They also exhibited another new machine, designated as model K-G, which is designed to produce half hose and ribbed-top women's hose with an inturned knitted welt, though it may also be operated on the fashioned welt hose produced by model K. In fact, this model, it is claimed, is the most comprehensive knitting machine ever built, since, in addition to the special stockings for which it is designed, the product of any of the different models may be made by it. There are various attachments which may be fitted to these machines for making split sole stockings; mock-seam or crow-foot stockings; a thread-cutting attachment, by

PROCTOR DRYERS
FORMERLY THE CYCLONE
THE PHILA. TEXTILE MACHINERY CO
ASK FOR CATALOG AND LIST OF USERS THE PHILADELPHIA TEXTILE MACHINERY COMPANY

PHILADELPHIA TEXTILE MACHINERY CO.

which the high-spliced heel and double sole floating threads are automatically cut out, resulting in a large saving; a striping attachment, adapted to make all kinds of stockings with three color stripes; a lace attachment for making the well-known lace stitch; a tipping attachment for tipping a portion of the heels and toes with a different kind or color of yarn from the rest of the heel and toe; and devices for automatically preparing the machine for transfer. By this is meant devices for use on machines employing the hand transfer method by which the needles are leveled automatically and the latch ring is automatically raised and lowered, so that the moves necessary by the operator are reduced to a minimum. With these needle leveling devices, which are covered by patent, owned by Standard Machine Company, under which Scott & Williams, Inc., are licensed, all that the operator has to do is to place the point ring on the needles, remove it again, and start the machine, reducing the time of transferring to about six seconds and greatly increasing the production of the machine.

All these machines are built on what is designated by Scott & Williams as their "Universal" principle. By this is meant that any model of the same diameter and the same number of needles may be changed to any other model. A mill operating machinery of this type is entirely independent of market changes, as the machines may from time to time be altered as the demand for goods made on new and improved types of machinery arises.

Types of their underwear machines, which are so well and so favorably known as to require no special description were also on display and being demonstrated. P. J. Smith, Jr., and an able corps of assistants took charge of the demonstrations.

The Standard Machine Co., of Philadelphia, was exhibiting a working demonstration of its well-known hosiery machines. These included a 150-needle, 3½ inch footing machine; a 220-needle half hose machine, which was making half hose with advanced toe, reinforced top and high spliced heel and double sole; also a 220-needle machine making ladies' hose with advanced toe, reinforced top and high spliced heel and double sole. All of these machines were of the latest "G" type, with a cam cylinder inside of the needle cylinder, thus allowing the machine to run at the

HEMPHILL MFG. CO.

highest possible rate of speed with a maximum production. The exhibit was in charge of Jacob Bauer, general manager, and Charles L. Schoneman, Southern and Western representative. Harry A. Houseman, president of the company, was also a frequent visitor. The mechanical end of the exhibit was in charge of Louis Unruh, assisted by efficient demonstrators.

The Philadelphia Textile Machinery Co., Hancock and Somerset streets, Philadelphia, again exhibited the Proctor automatic boarding, drying and stripping machine in operation, which aroused so much attention from manufacturers last year. Since the last exhibition a large number of these machines have been installed in various parts of the United States and foreign countries and have proved most successful. Two machines were shown each connected with a large dail indicating how many stockings were put on the machine, with a table to calculate how many dozen pairs an hour were being done. On this machine one man is able to turn out from two to three times as many stockings as he can on the old dry box method, it is claimed.

Various other advantageous features were demonstrated at the exhibit, which was demonstrated by F. Kershaw, sales manager, assisted by a number of assistants The machine has proved so popular in all sections of the country that the company is receiving orders for these machines faster than they can be turned out.

The Hemphill Manufacturing Co., of Pawtucket, R. I., displayed various sizes of the latest improved Banner full automatic hosiery machines in operation. These included one 220-needle 3¾ inch diameter machine fitted for ladies' hosiery; one 220-needle 3½ inch diameter working on half hose; one 176-needle 3¾ inch diameter machine making split foot stockings; one 120-needle 2½ inch diameter machine fitted for making infants' socks with striper and tipper.

This Banner full automatic is the fourth successful machine designed and built in accordance with ideas of J. D. Hemphill. The great success made by the Banner machine is also attributed to the practical foresight of Mr. Hemphill and the trained mechanics that have been with him for the past 25 years. The Hemphill Manufacturing Company have been building this machine for eight years and have over 19,000 in successful operation. The exhibit was in charge of General Manager John Lawson, Frank Jones, Eugene Gunning, Albert Landry, Morris Frost and Southern Representative C. J. Seely.

The Charles Bond Company, Philadelphia, had a display of transmission apparatus manufactured by their associated company, the Bond Foundry & Machine Co., Manheim, Pa., as well as "American" steel pulleys, "Gilbert" wood pulleys and their brands of oak tanned leather belting. A testing device was shown at this exhibit to demonstrate the easy starting properties and perfect balance of American pulleys. In this connection it is of interest to record a test demonstration made by the American Pulley Co. at the San Francisco exhibit. A 72x36 inch, triple arm, American steel split pulley, weighing approximately 1500 pounds, was mounted on a shaft using S. K. F. ball bearing hangers and operated from a motor using a single strand of silk thread, with a tensile strength of 4¾ pounds, as a belt. This pulley was started from rest and required seven and one-half minutes to attain its full speed of 15½ revolutions per minute. The Bond exhibit was in charge of C. Carter Bond, H. L. Martin and H. R. MacFern. R. P. Smith was the American Pulley Co. representative.

The Searchlight Company of Chicago came too late to be assigned a regular exhibit space, but Manager Duncan C. Sinclair of the Camden, N. J., office succeeded in securing table space at the entrance, where he exhibited a Searchlight oxy-acetylene welding outfit.

H. T. Powers, of the sales department of the Chicago Mill & Lumber Co. of Chicago, was also late in securing space. He, too, secured table space close by the main entrance, where he displayed "Dreadnaught" single veneer wired packing cases for light weight shipments such as hosiery and underwear.

H. C. Harding, Inc., manufacturers, dealers and importers of oils, chemicals and soaps, located at Sedgley avenue above 17th street, Philadelphia, had a unique exhibit consisting of a tier of barrels with the heads turned toward the visitor. The heads of these barrels were of

H. C. HARDING, INC.

painted glass bearing the regular stenciled imprint of H. C. Harding, Inc., and the name of the product contained therein. The letters in this stencilling were arranged to alternately show black and illuminated, by means of an electrical flasher device. The brands thus brought to the notice of the visitor were textile specialties such as yellow and green olive oils, soluble olive oil, 4B hosiery oil, XX tallow chips, olive oil soap, red oil soap, XX worsted and wool scouring soap, and cotton softener. H. C. Harding and C. I. Harding were in attendance.

Smith, Drum & Co. of Philadelphia, "makers of the best," occupied their usual large space which they had converted into a veritable conservatory of palms, ferns and flowers. These surrounded the desks and rugs that occupied the centers of the right and left sections. In the foreground were framed pictures of the well-known skein and warp mercerising machines made by this company. R. P. Smith was in personal charge of the exhibit.

The Enterprise Mill Soap Works, Inc., Philadelphia,

SMITH, DRUM & CO.

displayed samples of their textile and laundry soaps. Joseph W. Leberman was in charge.

W. H. & F. Jordan, Jr., Philadelphia, merchants in chemicals and oils and agents for "Progressive" textile soda, were represented at their space by W. J. MacBride.

J. L. Shoemaker & Co., 15 South Sixth street, Philadelphia, were demonstrating the New Jersey textile stitcher for attaching labels to hosiery, gloves, etc. Twelve of these machines are in operation at the Durham (N. C.) Hosiery Mills alone. John Torjusen, M. E., was in charge of the exhibit.

The American Manufacturing Co., Philadelphia, were showing the Yeakle scissors and shears for cutting underwear or any other kind of knitted or woven fabric. They have interchangeable blades of an even thickness and uniform size.

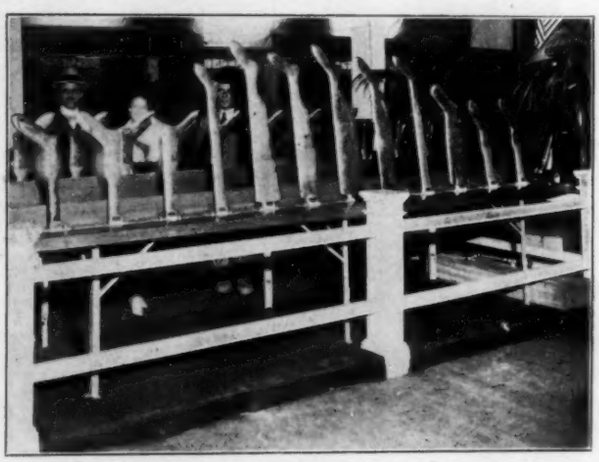
The K. & B. Company, 25 North Seventh street, Philadelphia, were demonstrating the Minnich baling presses and hoisting or tiering machines. This company also represents the Electro Chemical Co. of Dayton, Ohio, manufacturers of electrolytic bleaching outfits, and were showing one of these in operation. John Gerstle, a chemical engineer from the Dayton factory, was present, assisting and explaining this demonstration. The exhibit was in charge of C. W. Drumheller, assisted by Lee S. Kinkade. President Richard L. Binder was also personally present.

The booth of C. Walker Jones, representing Ernst Beckert, Ltd., the Currier Needle Co., and the Page Needle Co., was arranged in Japanese effect with lanterns, umbrellas and flowers. The booth was merely an office in the center of this Oriental bower. R. H. Welthall was in charge.

The Continental Latch Needle Co., 120 Liberty street, New York, was represented by President E. W. S. Jasper and Treasurer Theodore Groz. As the product handled by this company is manufactured at Ebingen, Germany, considerable difficulty is now being experienced in securing a sufficient quantity to meet the demands of the trade, however, Mr. Jasper states that in so far as is possible they are looking after the wants of their regular customers.

The General Chemical Co., La Fayette Building, Philadelphia, showed samples of heavy chemicals such as acids, soda, salts, aniline oil, etc., John Gluchman being in charge.

The O. F. Zurn Company, Philadelphia, exhibited samples of products made in their laboratories and samples of goods finished with these products. The chemical products included Lusterine softener, Turkish softener, glycerine softener, Alpine softener, silk thread softener, Lustrine oil, Jap-a-no silk oil, hosiery oils, scroop finish and other similar materials. The exhibit was in charge of J. M. Zurn and Wm. J. Rieger.



PARAMOUNT HOSIERY FORM DRYING CO.

The Manufacturers' Supplies Co., Philadelphia, made an excellent display of Pyrene fire extinguishers as well as a full line of other mill supplies. This company handles 15 lines of knitting needles, as well as looper and sewing machine needles.

The Paramount Hosiery Form Drying Co., main office, Chicago, Ill.; factory, Beaver Dam, Wis., has succeeded to the business of the Paramount Metal Form Drying Company, with increased capital and facilities to meet the growing demand for their patented aluminum drying forms, which are now being used by many hosiery mills for drying hosiery. The principle involves a hollow metal shape of the same circumference and outline as the usual wooden board and having its sides, at the margins, converging to present crease-producing edges. Introduction of steam to the interior of the form quickly heats it to the temperature required for rapid and uniform drying. Mounted upon a table, the form is preferably inclined away from the operator at an angle for the most rapid work and is so connected with the steam supply as to per-

mit of quick changes from one style or size of form to another. By means of safety and pressure-regulating valves, steam may be maintained uniform at all times and at all points. A large variety of these forms in different sizes were shown. Present at the exhibit were Vice-President and General Manager John C. McFetridge, from the factory at Beaver Dam, Wis., President Henry Pope, W. E. Clark, Frank Pope, Jerry Tully and W. D. Butz.

Schaum & Uhlinger, Inc., Philadelphia, demonstrated their type E textile extractor with direct motor drive, self-oiling step box and toggle brake. This extractor was of the self-balancing variety and is made in six sizes. The motor is mounted on a housing and drives the basket shaft through a pair of cut gears, consisting of a cast iron bevel gear and a rawhide pinion. The motor windings are impregnated to insure against action of moisture or corrosive fumes. Gearing is made safe by strong gear guards. This exhibit was in charge of C. W. Schaum, manager of the textile department.

The Merrow Machine Company, Hartford, Conn., were exhibiting numerous models of their overseam, overedge, and shell stitch machines, used extensively for finishing men's, ladies' and children's knit underwear and other knitted goods, including sweaters and stocking welting, toe closing and mending. Their style 22 shell stitch machine has been improved and now produces two styles of stitch on the same machine. A number of class 60 machines were also shown in various styles. Another special feature was a welt folder which could be attached to the table at a point convenient to the operator. This exhibit was in charge of Manager E. H. Allen of the Philadelphia office, assisted by J. B. Tolan and W. J. Longley.

The Uniform Dyeing Machine Co., Groveville, N. J., exhibited a Uniform bleaching and dyeing machine in reduced size, which afforded an opportunity to study the method of unloading, the effect of the circulating fluid on the stock under treatment and other important points. A miniature Hussong machine was also shown. A special feature demonstrated in connection with this machine was a cage for loose stocks, showing the manner in which the load may be suspended during the noon recess, or from one day to another, also the method of transferring the stock to another machine for further processing. The Morris patented canvas basket for mill and general use was also displayed.

The Beattie Mfg. Co., Cohoes, N. Y., were presenting the new Nanpareil two-thread looper. Mr. Beattie was personally present at the exhibit, assisted by W. Jos. Harrison.

The Aberfoyle Manufacturing Company, Chester, Pa., adopted their usual plan of maintaining a reception booth for the use and accommodation of their friends. This booth was equipped with telephones, parcel checking room, stenographer, etc. This booth was designed and operated

MERROW MACHINE CO.

under the supervision of E. T. Switzer, although a press of business matters prevented him from being personally present except for a limited period of time. C. L. Gilliland, treasurer of the company, was present, as were Thomas J. Golden, James A. Holt, S. Roweroft, J. H. Thomas, and Joseph P. Holt.

The American Laundry Machinery Co., Cincinnati, O., were demonstrating the American automatic underwear press. This machine is purely automatic in all its construction and is equipped with steaming device for dampening and lofting. The timing device governs the pressure and keeps the goods under pressure a given number of seconds, giving uniformity in pressing. The timing of this can be changed according to the weights of the garment. The capacity is approximately 300 dozen per day of ten hours; this is ironing two garments on a frame, garments ironed flat. When the garments are ironed, folded, a great deal larger number can be handled. Another machine shown was the American foot-power underwear press No. 37.

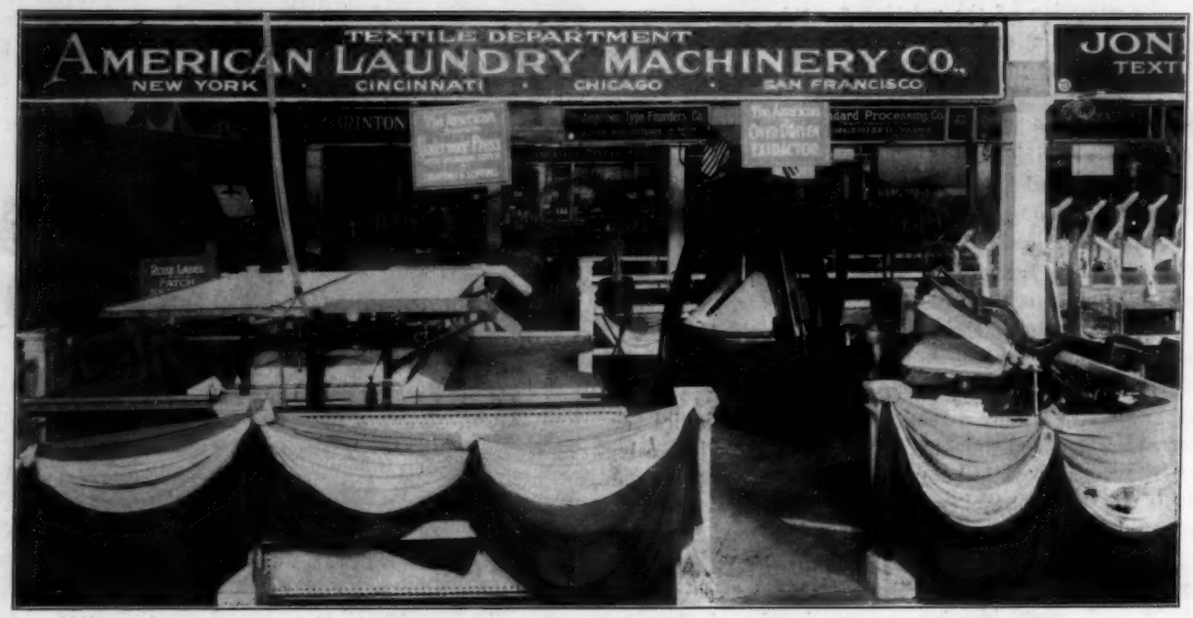
ABERFOYLE MANUFACTURING CO.

This machine is made in various sizes to accommodate different manufacturers. Still another machine was an American overdriven extractor. A Rose labeling and patching machine was also being displayed. Present at the exhibit were W. H. Taylor, H. O. Harding, Geo. Wenzell, D. H. Benjeman, Kay Freeman and E. G. Van Wie.

The New York Revolving Portable Elevator Co., Jersey City, N. J., were demonstrating a "Revolvator" for warehouse and similar work. D. K. Dana was in charge, assisted by C. A. Scheuber.

John W. Hepworth & Co., Philadelphia, exhibited their single stitch looper with patent two-thread elastic stitch attachment. Also their new model two-thread elastic stitch looper. A Hepworh cutter was also being demonstrated. It is claimed for these loopers that the large size of loop formed for the hook to enter prevents the necessity of having the hook touch the sewing needle, as if the hook is within 1/32 of an inch of the needle it will pick up the stitch. John W. Hepworth was personally present and Ernest F. Schwass acted as demonstrator.

The Jenckes Knitting Machine Co., Pawtucket, R. I., displayed three Invincible full automatic, seamless hosiery machines. One of these was a 3½-inch, 234-needle machine making ladies' stockings from 80's 2-ply mercerized combed peeler yarn. Another was a 4¼-inch, 72-needle machine with yarn changer, making white heels and toes




AMERICAN LAUNDRY MACHINERY COMPANY.

from woolen yarn such as are used in the manufacture of hose for the European soldiers. Also a 3¾-inch, 160-needle machine making ladies' cheap cotton and half hose. The exhibit was in charge of R. S. Beavers. J. E. Lent was also present greeting his friends.

The Grand Rapids Textile Machinery Co., Grand Rapids, Mich., were demonstrating the Shields' system of finishing knitted fabrics. When knitted cloth for underwear and similar purposes is bleached and washed it is continually being pulled and stretched unevenly in length, while it is wet. If allowed to dry in this condition, the strain still remains and cloth will be uneven and too narrow. By running over the adjustable spreader they were showing the stitch is opened and width brought back to where it was knit. This machine was designed for automatically spreading, straightening and hanging tabular knit fabric on dowels ready for the dry room. The cloth is loaded onto a pipe as it comes from the extractor, then run over an adjustable spreader and through a pair of rolls onto a conveyor, which carries it to the mechanism that loops it on the dowels. The dowels are placed in a hopper and fed automatically to an overhead rack where the cloth loops onto them. A special truck with an elevating rack is used to lift the dowels filled with cloth off the machine and convey them to the dry room, where they are all transferred to the drying rack in one operation. The same truck is used to remove and convey the cloth from the dry room to a folding machine of their manufacture, where it is folded automatically direct from the truck, in flat even folds without strain, ready for stock or cutting room. A turning and loading machine was also shown, especially designed to work with their folding machine. Another machine shown was a Shields' improved automatic cutting and piling machine. The Shields' automatic cuts either heavy or light weight cloth to any desired length up to 140 inches, 24 inches in width, at the rate of 850 yards per hour, and piles the lengths compactly and evenly—more perfectly than can be accomplished by the most careful hand work. The fabric passes over a rack, making inspection convenient, it being unnecessary to delay or interfere with the operation of the machine for this purpose. The cloth may be cut at any point by simply pressing a button, enabling the operator to cut out defective cloth, or to cut short lengths which may be worked into sleeves, etc. The machine continues to cut regular lengths without stopping. President H. A. Shields was in personal charge of the demonstration, assisted by Vice-President L. W. Feighner and Charles W. Bacon.

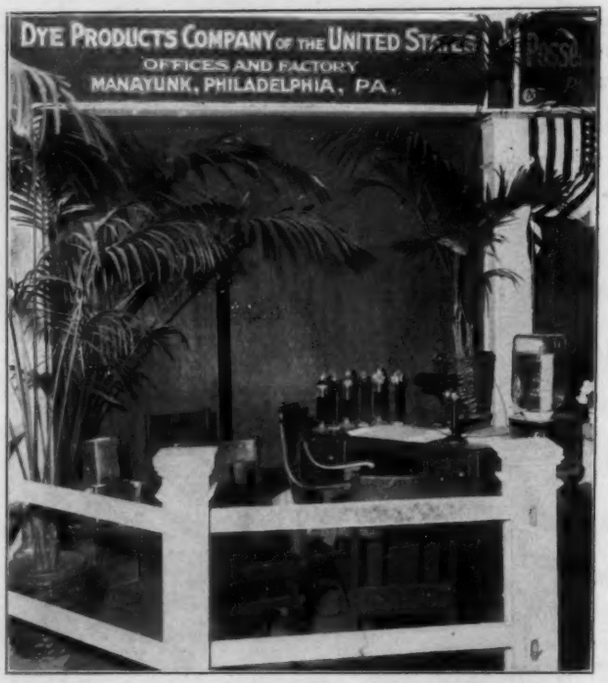
Jones & Hardy, Hudson, N. Y., were displaying many textile specialties for which they are the agents. They handle a full line of mill supplies. The exhibit was in charge of John C. Hardy of the firm, assisted by H. A. Hallenbeck. Mr. Jones was unable to be present.

Scholler Brothers Company, Philadelphia, were showing their entire line of soaps, softeners and specialties for dyers, bleachers and finishers. These included olive, palm and tallow soaps, white borax soap, uniform softener, and soluble oils. F. C. Scholler, Henry H. Scholler and George Pickering were in attendance.

The Tolhurst Machine Works, of Troy, N. Y., exhibited the latest type of their over-driven self-balancing hydro-extractor. It was driven by a motor directly belted to the

TOLHURST MACHINE WORKS.

extractor, the motor being placed at the rear of the machine. The motor was of special design, and did not require any kind of starting device except a simple double-throw switch. The extractor was equipped with the type of basket commonly used in dyehouses—one having a bronze top ring, a copper side sheet, the basket bottom being covered with sheet copper and the inside of the basket coated with tin. This construction has been found best suited for bleaching and dyeing delicate colors, and the handling of work that must necessarily be kept clean. The Tolhurst Machine Works make many other types of extractors to suit different kinds of work, but they believe the over-driven style exhibited to be the best for all-around




DYE PRODUCTS CO., OF THE UNITED STATES.

work. The patented adjustable idlers, which are now a standard equipment on these machines, are a feature of great convenience, as they permit a change of the drive from, say motor to either engine or countershaft, and the motor or the countershaft may be located on the ceiling as readily as upon the floor. This extractor was fitted with a safety guard. The Tolhurst Machine Works are building specially designed centrifugals for all classes of chemical work, including dyestuffs. These machines are built with bottom discharge. They also construct machines with a special dehydrating device. Impregnating and laboratory centrifugals are also a specialty. The exhibit was is charge of Vice-President F. A. Tolhurst, D. C. Patton and E. W. Vincent.

The Transmission Ball Bearing Co. displayed the Chapman bearings for transmission work in various forms and sizes. J. S. Kunkle and E. J. Beachle were in charge.

Andreykovicz & Dunk, the well-known Philadelphia dye and chemical firm, merely maintained an office in which company will be in the market with direct colors made in the United States in their own factories. The exhibit was in charge of General Manager E. S. Pleasanton, assisted by A. Rittenhouse, assistant chemist.

The union of ammonia and soda in a practical way has been accomplished. Ammonia is a volatile alkali and is much more active as a detergent than any known alkali or soap. It is also harmless, because it performs its function and vanishes in the air, requiring no rinsing. Through the latest adaptation of the ammonia process of manufacturing soda of Isaac Winkler & Bros. of Cincinnati, Ohio, ammonia is held in suspension in the soda until it discharges on coming in contact with water, thus performing its service at the proper time and without waste. This product is known as "Blue Label" Prosperity soda and it was being demonstrated at the exhibit of Isaac Winkler & Bro. by H. C. Bramwell, the Southern representative. A. R. Braun, manager of the "Prosperity" department, was also in attendance.

EXHIBIT OF THE WILDMAN MANUFACTURING COMPANY.

to receive their friends. They advise that they still have some sulphur colors, chrome colors and a few acid colors. Also softeners and soaps for all textile purposes. Alfred Koch, the Southern representative, was in charge, assisted by B. C. Holst of Philadelphia.

The Bicking Paper Press Co., of Philadelphia, were demonstrating their hand operating baling presses for all waste materials.

The Bradley Stencil Machines and other shipping department supplies were displayed at the exhibit space of George C. Decker, Philadelphia. Mr. Decker was personally demonstrating the ease, speed and accuracy with which stencils could be cut on the Bradley. He was assisted by William C. Feiler.

The Clipper Belt Lacer Co., Grand Rapids, Mich., had their usual display in charge of W. F. Kall of the New York office, assisted by Samuel Mollenick.

The Dye Products Company, of the United States, Manayunk, Philadelphia, Pa., were showing samples of purified extracts of logwood, redwood and osage orange. These extracts are purified by a patented process controlled by this company. Within a comparatively short time this

The Wildman Manufacturing Company of Norristown, Pa., had their usual large and interesting exhibit where the following machines were to be seen in operation: one 33 inch, 24 feed, 10 cut, 2064 needle, automatic revolving cylinder machine, equipped with vibrating dogs; one 19 inch, 8 feed, 16 cut, 1896 needle, revolving cam machine, equipped with dogless attachment and with inserted wall cylinder and dial; one 16 inch, 8 feed, 14 cut, 1416 needle, revolving head machine with vibrating dogs; one 14 inch, 8 feed, sinker top revolving cylinder machine, 16 cut, 708 needle; and one 14 inch, 8 feed, revolving cylinder machine, with 1056 needles and vibrating dogs. They were also showing one 21 inch, 16 feed, 16 cut, 1056 needle, machine for flat goods. This machine was equipped with spring beard needles and proved quite an attraction to the numerous visitors to this space. In addition to the machines described, there was a 3 inch machine for infants' socks, with 160 needles and dogless attachment; a 3½ inch French welt machine with 240 needles, two speed drive and dogless attachment; a spring needle Pigeon footer 3¾ inch, 260 needles, for ladies' hose; and a 3½ inch half hose machine with 240 needles. These two latter machines also deserve

special mention as they created much interest among many of the practical knitters present. This exhibit was in charge of W. H. Allerton, while D. C. Bellis, F. B. Wildman and A. M. Pigeon were frequently present.

The United States Hoffman Co., Syracuse, N. Y., manufacturers of steam pressing machinery, exhibited their latest hosiery and underwear models. The principle of "Hoff-Man" pressing is the direct application of hot dry steam to either underwear or hosiery, the tendency of which is to improve the ordinary finish of the goods. Invitations were sent to knit goods manufacturers by the Hoffman Company requesting that samples be either expressed or brought in person to the exhibit hall, that they might be pressed there and returned to the owner, for the purpose of demonstrating the superiority of "Hoff-Man" pressing. Those present at the exhibit were E. C. Moore, P. E. Geldhof, T. Hudson, I. V. Howd and L. J. Reith.

an extensive exhibit. Two machines which were viewed with special interest by hosiery manufacturers, were the cup feed machines, styles 41000 A and 41200 B. The former machine is used for seaming fashioned hose, and the latter for clocking or ornamenting. Among the many diversified machines shown for accomplishing the various finishing operations on underwear and knitted goods, the Tandem Interlock was probably the most popular. This machine was in operation at all times, seaming both light and heavy knitted garments with equal facility. Aside from the fact that this machine trims and covers the seam in one operation, the attractive stitch and the flatness of the seam makes a very desirable finish for high grade garments. A feature of the Union Special Machine Company exhibit, was the fact that they had in Philadelphia, during the convention week, the majority of their knit goods salesmen throughout the United States and Canada, the official headquarters

PHILADELPHIA DRYING MACHINERY CO.

The Johnston Mfg. Co., of Charlotte, N. C., were showing carded and double carded cotton yarns from 4's to 60's. They have just started the Norcott Mills at Concord, N. C., manufacturing a high grade of double carded yarn in 30's singles. The Norcott is the eleventh mill in the Johnston string. R. H. Johnston was in charge of the exhibit, assisted by R. W. Stokes, manager of the Philadelphia office, John R. Ross and Charles R. White.

The U. S. Gutta Percha Paint Co., Providence, R. I. had the usual exhibit of Rice's Mill White in charge of G. W. Morris and Charles A. Foster. The gold medal awarded at the San Francisco exhibition was also shown.

The Industrial Machine Co., Grand Rapids, Mich., were demonstrating the Handy Button Box, a device to save time and buttons. Earle A. Clements, Jr., was in charge.

The Union Special Machine Co., Chicago, Ill., operated

being at Hotel Walton. On Friday night a banquet was tendered the visiting representatives by the Philadelphia office staff, covers being laid for fifty. Among those present, including several prominent officials were: Lansing Onderdonk, H. K. Lanning, P. T. McLondon, New York; B. H. Crandall, M. A. Metcalf, Boston; A. J. Brown, R. B. Thompson, Cohoes, N. Y.; W. W. Scott, L. M. Hong, Amsterdam, N. Y.; Joseph Berger, W. E. Raynor, Utica, N. Y.; J. L. Stangel, W. LeRoy, Geo. Beaumont, Cincinnati, O.; O. A. Rohn, A. M. Sheldon, C. H. Crowell, D. S. Seymour, Chester McNeil, S. R. McNeil, Chicago; J. DeNure, G. C. Cooper, E. E. Gratsch, G. M. Ide, J. H. Linn, J. N. McNelly, H. Pennebakker, J. D. Perrin, Geo. Pinkham, A. Straub, Jr., W. F. Tooney, Frederick Thomas, C. C. Lyle, J. Effingham, J. A. Griffin and Thomas Haskard, all of Philadelphia.

Harding & Fancourt, Inc., 516 South Delaware avenue, Philadelphia, were displaying samples of chemicals and soaps which they import or manufacture. They report that their number 35 hosiery oil, to use as a substitute for olive oil, is making a hit. E. H. Morningstar and A. A. Wetton were in charge.

The Philadelphia Drying Machinery Co., 6721 Germantown Ave., Philadelphia, demonstrated two large machines of their manufacture. One of these was a Hurricane improved rotating circular dyeing and bleaching machine, the cylindrical center of which was divided into pockets into these pockets the hosiery is suitably packed, thereby preventing the tumbling and rubbing of the goods. A pump on one end of the machine forces the liquor into a center perforated pipe and thence through other perforations into and through the hosiery pockets. Another pipe in the bottom of the tub returns the liquor to the pump. Another machine shown was a Hurricane hosiery dryer. These new steel machines, are provided with a rigid steel angle frame, securely fastened and braced at the corners by means of specially designed steel castings. To this frame are secured, by hand latches, steel panels so constructed as to prevent the radiation of heat. These panels compose the walls and roof of the dryer, and are constructed of two sheets of steel, between which air-cell asbestos insulation is interposed. By removing a panel, which may be instantly accomplished without tools, the operator gains access to the fans and coils and is enabled to thoroughly clean the machine when desired. The dryer is divided by a sheet steel partition into two compartments, the narrow one at the rear containing the heating coils, and the larger one at the front being provided with steel drawers for the accommodation of the boarded stockings. W. W. Sibson, the secretary and treasurer of the company, was in personal charge, assisted by C. H. Reumann, E. L. Smith, H. Morshead and G. Allsop.

The American Type Founders Co., Boston, Mass., were displaying the Boston textile wire stitcher No. 11, for attaching printed paper or thin card labels to hosiery, knitted, woven, or any kind of cloth stock. The portion of the frame in which the clinchers operate is an arm designed to allow the stitch to clinch in any position inside, thus permitting, in the mercantile establishment, the consumer to inspect goods inside and outside. This is something the local merchant is sure to appreciate, although staples may be placed entirely through the stock if desired. This machine has special guides on the head, so that thick, spongy stock may be fed in without disturbing or injuring the label. The Boston staple binder, which was also exhibited, is for foot power and is built on new lines producing a quality of work equal to first-class wire stitching. No adjustment is necessary for different thicknesses, as the stapler is automatic. Aside from the method of using staples, the most valuable working part of the Boston stapler is the supporter, which prevents staples buckling, permits the use of fine wire, and insures neat, even, flat, perfect stapling. Another device shown was a Boston automatic paper fastener, capacity two sheets to one-sixteenth inch, using fine wire and binding securely and neatly. The exhibit was in charge of W. G. Chase, who demonstrated these popular machines for the visitors. Treasurer J. D. A. Whalen from the factory was also present for one day.

The Permutit Company, 30 East 42d Street, New York, had on exhibit a Permutit softening filter, 24 inches in diameter by 8 feet total height. This is a miniature of the filters installed in textile mills. By far the most interesting and attractive part of the exhibit was the actual demonstration of the effectiveness of Permutit for softening water. They showed small glass Permutit filters, through which they run hard water, making it absolutely soft. The exhibit was in charge of Sales Manager A. R. Calvo, assisted by M. F. Corin, the Philadelphia representative.

The Walter Snyder Company, Philadelphia, were displaying the Snyder flat steam heated metal forms for drying hosiery. These may be mounted on a table at a convenient angle, while the table may be arranged to support any desired number of forms. This company also announces that in the near future they will have a flat steam heated metal form for drying underwear. These will consist of

BARBER-COLMAN COMPANY.

shirt and drawers forms of various sizes ranging from infants' to adults'. This will be of interest to manufacturers of two piece underwear, as it will make a saving in floor space, require fewer operations, and a less cost for equipment is claimed. Walter Snyder was personally present and J. P. Jeter, the general sales manager, demonstrated the equipment, which included a vacuum method for turning hosiery.

The Barber-Colman Company, Rockford, Illinois, exhibited their hand knotters and warp tieing machines. The hand knotters are adapted to all sizes and counts of cotton yarn, as well as special machines for wool, worsted and silk. Among the recent improvements is a model metal handle, which will not pit or corrode, as this metal is proof against the acid in the perspiration. The Model K. Barber warp tieing machine which was being demonstrated is the movable type of machine, designed for operating in the loom alley in connection with Jacquards and fancies. Its capacity equals that of three average twisters, and can be

furnished equipped to handle yarns ranging from the very coarse, such as are used in ducks, towelings, damasks, Marseilles and satin quilts, to finer numbers used in connection with fancy weaving. Messrs. Goodrich and Anderson from the Boston office were in charge.

The Torsion Balance Company, 92 Reade street, New York, exhibited a line of textile scales. One type gave without calculation, the count of cotton, worsted and woolen yarns; another type is used for determining the number of yards to the pound of cotton cloth, regardless of width, and for woolen cloth the actual weight in ounces or grammes for any width goods. For general use, they showed their style No. 5020 with a graduated beam from 1-10th to 10 grains. They also exhibited a line of hosiery and underwear scales, which gave the exact weight per pair and also indicated at the same time the weight per dozen pairs. Conspicuous among the company's exhibits were dyers' scales, chemists' scales and, in fact, a complete line of

H. BRINTON COMPANY.

S. K. F. BALL BEARING CO.

scales for the testing department and the lighter mill weighing. Torsion balances are all built on a principle which eliminates knife edges or any parts that wear, consequently there is no friction and scales remain permanently accurate and sensitive. The exhibit was in charge of W. Clark Symington and S. W. Hess.

The H. Brinton Company, 213 Race street, Philadelphia, were demonstrating a number of interesting machines, among which was their latest effort, the "Model C" Brinton automatic hosiery knitter. This machine is of the revolving cylinder type, with five yarn changer fingers. It has non-friction needles and rocking sinkers. There is a screw adjustment on every adjustable part, so that all adjustments are positive, all guesswork being eliminated. The machine can be run at a very high speed and the transferring is simple and convenient, very few hand operations being required. Another machine shown was a single-feed ribber with welt and loose course movements for making half hose tops, and ribbed legs for children's hosiery. In addition to the regular loose course attachment, operating on the cylinder needles, these machines are equipped with a special attachment operating on the dial needles, for making an extra large loose course. The length of tops is governed by a measuring chain, and can be varied either one way or the other by removing or inserting links. The pattern or number of welts to be made can be changed in a moment by changing the screws in the pattern wheel. They also demonstrated a French Welt ribber, with dogless and two-speed attachments. This machine was two feed, simple and positive. The regular tubular or French welt can be made on this machine, or by changing a few screws in the pattern wheel, the loose end of yarn which is left after separating the tops, can be tied in. This prevents the loose end from being pulled, which causes the welt to open, and spoils the top. The main support of the dogless attachment has a three-point bearing, the three legs of the spider resting on three posts fastened in the bed of the machine. The revolving stopmotion or bobbin stand is fastened to the yoke or cross bar of the machine, and has no connection with the dial shaft. This prevents wear on the shaft that might be caused by uneven bobbins being carried, which would cause the dial to wobble or run out. All individual parts of the attachment are interchangeable, so that any worn or broken parts can be replaced without having to replace the main parts. The two-speed attachment is a three-pulley arrangement, which reduces and increases the speed of the machine easily and without any jar. The high speed is the direct drive, which reduces the wear on the gears to a minimum. Secretary H. S. Horrocks, G. H. Sloan, Leon Bean and R. J. Morningstar were in attendance.

The Eastman Machine Company, Buffalo, N. Y., manufacturers of Eastman cloth cutting machines, made a working display of their product. Their booth was in charge of their special representative, Fred Hellge.

The J. B. Ford Co., Wyandotte, Mich., displayed in a lavishly decorated booth many textile products in the finishing of which Wyandotte soda had been used. F. S. Klebart was in charge.

Peech, Sons & Philips Co., Camden, N. J., had reserved

# PARTIAL LIST OF MILLS THAT ARE USING OUR CAM DEVICE

**ALABAMA.**
Alabama Cotton Mills.
Avondale Mills.
Cowikee Mills.
Dallas Mfg. Company.
Pell City Mfg. Company.

**CONNECTICUT.**
Attawaugan Company.

**GEORGIA.**
Augusta Factory.
Columbus Mfg. Company.
Eastman Cotton Mills.
Echato Cotton Mills.
Fulton Bag & Cotton Mills.
Griffin Mfg. Company.
Harmony Grove Mills.
Hartwell Mills.
Lanett Cotton Mills.
Lois Cotton Mills.
Manchester Cotton Mills.
Roswell Mfg. Company.

**MAINE.**
Barker Mills.
Edwards Mfg. Company.
Little Androscoggins Water Power Co.

**MASSACHUSETTS.**
Appleton Company.
Boston Duck Company.

**MISSISSIPPI.**
Stonewall Cotton Mills.

**MISSOURI.**
Home Cotton Mills.

**TENNESSEE.**
Brookside Mills.
Columbia Cotton Mills Co.

**NORTH CAROLINA.**
Brookford Mills Mfg. Co.
Cabarrus Cotton Mills.
Chadwick-Hoskins Co.
Durham Cotton Mfg. Co.
Edna Cotton Mills.
Entwistle Mfg. Company.
Erwin Cotton Mills Co.
Great Falls Mfg. Co.
High Shoals Company.
Loray Mills.
Marion Mfg. Company.
Pee Dee Mfg. Company.
Pilot Cotton Mills Co.
Pomona Mills.
Roanoke Mills Company.
Rosemary Mfg. Company.
Salisbury Cotton Mills.
Shelby Cotton Mills.
James N. Williamson & Sons.

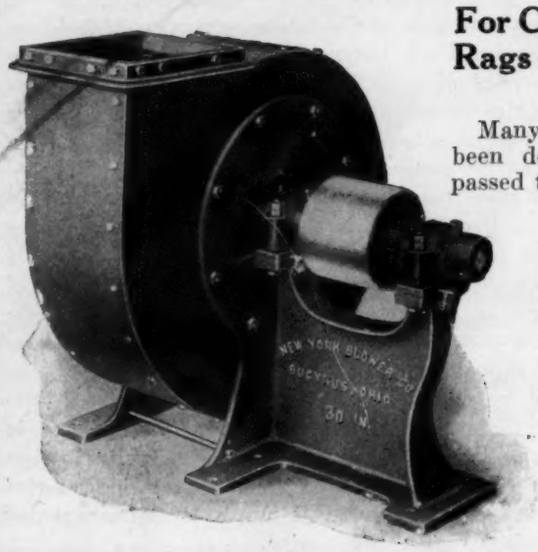
**SOUTH CAROLINA.**
Abbeville Cotton Mill.
Anderson Cotton Mills.
Arcade Cotton Mills.
Arcadia Mills.
Aragon Cotton Mills.
Belton Mills.
Brandon Mills.
Calhoun Mills.
Carolina Mills.
Chesnee Mills.
Cherokee Falls Mfg. Company.
Chiquola Mfg. Company.
Clifton Mfg. Company.
Clinton Cotton Mills.
Conestee Mills.
Courtney Mfg. Company.
Cowpens Mfg. Company.
Dunean Mills.
Easley Cotton Mills.
Enoree Mills.
Eureka Cotton Mills.
Equinox Mills.
Fountain Inn Mfg. Company.
Gaffney Mfg. Co.
Glenwood Mills.
Globe Mfg. Co.
Gluck Mills.
Grendel Mills.
Hampton Cotton Mills Co. (Granby, Olympia, Richland and Capital City Plants).
Jackson Mills.
Judson Mills.
Laurens Cotton Mills.
Limestone Mills.
Lockhart Mills.
Lydia Cotton Mills.
Lockhart Mills.
Maplecroft Mills.
Manchester Cotton Mills.
Middlesburg Mills.
Mills Mfg. Company.
Monarch Cotton Mills.
Ninety-Six Cotton Mills.
Norris Cotton Mills.
Oakland Cotton Mills.
Orr Cotton Mills.
Pacolet Mfg. Company.
Panola Cotton Mills.
Pickens Cotton Mills
Piedmont Mfg. Company.
Poe (F. W.) Mfg. Company.
Poinsett Mills.
Republic Cotton Mills.
Saxon Mills.
Simpsonville Cotton Mills.
Spartan Mills.
Toxaway Mills.
Tucapau Mills.
Union-Baffalo Mills Company.
Victor Mfg. Company. (Greer, Victor and Wallace Plants.)
Warren Mfg. Company.
Williamson Mills.
Woodruff Cotton Mills.
Woodside Cotton Mills.

*Write for Circular and Prices.*

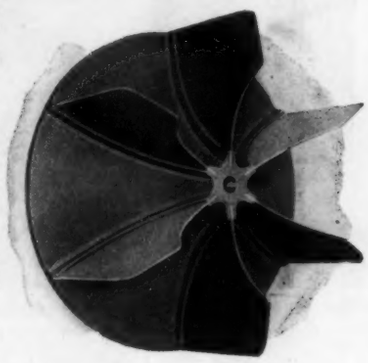
## CLINTON CAM COMPANY, - CLINTON, S. C.



# Peerless Conveying Fans




### For Cotton, Wool, Shoddy, Rags and Stringy Materials of all kinds.



Many systems for this work have been devised, but none have surpassed the reliable Peerless Fan.

The fan wheel is constructed with cone-shape back of cast iron, with steel blades cast solid. Note the short overhang which makes it run smoothly without vibration and which offers the least resistance to material passing through it. Ask for R. F. folder.

Our Fans and Air Washers have set a standard for vapor absorption systems, and for heating, ventilating and humidifying.

Catalog Nos. 65 and 67 show the complete line. Write for them today.

## The New York Blower Co.

**Main Office: Archer Ave. and Canal St., CHICAGO, ILL. Works: BUCYRUS, O.**

**502 Plymouth Bldg.**
**Minneapolis, Minn.**

**12 Railroad Place**
**East Orange, N. J.**

**508 Erie Bldg.**
**Cleveland, O.**

BUILT RIGHT RUN RIGHT

a reception booth where they could entertain customers and friends.

One of the effects of the war was the absence of the usual tasteful display of Peroxide-treated textiles by The Roessler & Hasslacher Chemical Co., of New York, whose annual exhibition has been showing the constantly growing importance of that field. Their genial representatives, Messrs. Carter, Harding and Fairbairn were present and greeting their many friends and acquaintances.

The S. K. F. Ball Bearing Co., Hartford, Conn., had an operating exhibit which demonstrated the many applications of their bearings in textile work. They exhibited bearings in all sizes from those smaller than a dime up to the big ones with a capacity of more than 120,000 pounds. Arthur V. Farr, the advertising manager and Elliott A.

BRADLEY STENCIL MACHINE CO.

Allen, the textile expert of the company, were present, assisted by a number of other representatives.

The Standard Processing Co., Chattanooga, Tenn., maintained a booth as a reception room and office. Treasurer Thatcher from the Chattanooga factory was personally present.

The Southern Textile Machinery Co., Paducah, Ky., were demonstrating the Wright steady dial looper. The exhibit was in charge of G. A. Flournoy, president of the company. Three looping machines were displayed on coarse, medium and fine gauge work. The steady dial movement of the Wright looper is a distinct improvement because they can be speeded up to a greater production without wearing on the nerves of the operator. Looping is one of the hosiery manufacturer's greatest problems, therefore, ease and simplicity of operation is of great advantage. The trimmer with which these loopers are now equipped is an entirely new model, for which the manufacturers hold out great claims.

## The Knit Goods Market.

The only easing up in the tight hosiery situation is in better offerings of sulphur black. But what relief is being felt in this direction is offset by a more acute shortage of needles. It is believed that the visible supply of machine needles in the United States will be exhausted before midsummer.

That the scarcity of needles is confined to no particular section of the country or branch of the knitting industry was disclosed in the talks with manufacturers from the South, the Central West and the Middle and New England states who attended the May convention and exhibition of the National Association of Hosiery and Underwear Manufacturers in Philadelphia. All told practically the same story. In some of the New England states the woes of knit goods manufacturers are multiplied by the scarcity of suitable help, much of the best of which has gone into the munition factories at wages which hosiery men could not pay while selling production at present prices.

So far as help is concerned, the South and Central West are the most advantageously situated. But it is becoming apparent that these sections, too, must prepare to meet a labor emergency. Taking note of the wage boosts in the East, agitators are circulating in various knitting centers, urging mill operatives to insist upon similar schedules. Thus far these paid emissaries for promoting discord have accomplished nothing more than planting the seeds of unrest. Whether they will germinate depends upon the duration of the present demand for help.

Already considerable machinery is idle because of lack of needles. Where this is the case there is little distress from a shortage of labor. Yet, some of the New England and New York State mills are suffering from both causes.

The approaching needle famine can be, and doubtless will be, averted. A number of knit goods makers have come forward with offers of capital for enabling a company in process of organization to so equip an existing factory that its output of needles can be doubled, and the success of the project seems assured.

C. Walker Jones, of the Beckert Needle and Supply Company, Philadelphia, is the moving spirit in forming one such company, and overtures have been made by a manufacturer of German extraction to the Chamber of Commerce in Philadelphia for the location of a needle factory in that city.

The capital for such establishments will have to be supplied by men who are being forced by necessity to provide the things needful for keeping their plants in operation. Others are not interested. Meanwhile the vicarious expedient of diplomatic procedure is being resorted to for bringing in a sufficient supply of German needles to temporarily relieve the tension.

With the allied powers arrayed against Germany almost wholly dependent upon the United States and Canada for hosiery and other knit goods, some manufacturers hold there is afforded an opportunity for forcing a removal of the embargo so far as the necessities of the knitting trade are concerned. In any event, while the lid remains on there is offered an excuse for higher prices for hosiery for export. For even though Germany should consent to ship-

# New York Color and Chemical Co.

212 Pearl Street - - NEW YORK

# LOGWOOD EXTRACT

51° Unoxidized — Unadulterated
Unvarying High Quality

IF PROMPT DELIVERIES ARE WANTED, WRITE US

# ANILINE COLORS—CHEMICALS

SANITARY
## PAPER CUSPIDORS

*Nothing to Wash.* *Nothing to Clean.*
Simply fill with wet or dry saw dust, when dirty burn them up.

PRICE
$12.00
PER M.

WOLFSON TRAY CO., COLUMBUS, GEORGIA.

## ABSORBENT COTTON

For Druggists, Physicians, Hospitals and Families
"SALCO" "PALMETTO"
"HOSPITAL"

Manufactured by
SOUTHERN ASEPTIC LABORATORIES INC.
Columbia, S. C.

## Best Grade Renewed Lamps

Both Carbon and Tungsten Types
We guarantee you most for the money
BOSTON ECONOMY LAMP DIVISION
National Lamp Works of General Electric Co.
28 MAPLE ST. DANVERS, MASS

## Leigh & Butler

232 Summer Street, Boston, Mass.
Sole Agents in the United States and Canada for Platto Bros. & Co., Cotton Machinery.
COMPLETE MILL EQUIPMENT
Patent Barchant Machinery for Making Yarn from Cotton Waste, Etc.

## BALING PRESSES

ALL STEEL ECONOMY FIRE PROOF

FOR ALL PURPOSES
Largest Line in the U. S.
*Write*
ECONOMY BALER COMPANY,
Dept. C., Ann Arbor, Mich.

## STENCILS

FOR COTTON SHIPPERS, COTTON MILLS, MERCHANTS & MANUFACTURERS - ALSO BRUSHES, INK, MARKING POTS.
RUBBER STAMPS NOTARIAL AND CORPORATION SEALS
ATLANTA RUBBER STAMP & STENCIL WORKS
OFFICE: 33 LUCKIE ST. WORKS: 350 EDGEWOOD AVE.
P.O. BOX 834 OLDEST STENCIL AND STAMP HOUSE IN GEORGIA ATLANTA, GA.

ping us needles and dyes, the cost here would necessarily be several hundred per cent above normal.

It is no secret that hosiery for export is commanding better prices than distributors for domestic consumption are willing to pay. This may be attributed in great part to the apparent determination of retail merchants here to adhere to fixed prices, something which retailers in countries across the seas have never countenanced.

The buyer for foreign markets has a standard of quality and finish, from which he will depart only under force of circumstances. In the domestic trade, except as to the larger department stores, price is the standard. The retailer has a price limit beyond which he will not go on an article to sell at, say, two for a quarter, 25 or 50 cents, and the jobber has a limit on the price which he will pay the mill for an article to be sold by the retailer at a given price. Here is the deadlock in the hosiery business.

Many mills, it is true, are operating upon a much less margin of profit than during the period of depression. They are making money only because of vastly increased production without any material increase in overhead costs. This is all very well, so long as there remains a shortage of hosiery, but these mills, the larger ones, are going to make it difficult for the smaller concerns, inadequately capitalized, to eke out an existence when industry takes the place of slaughter in Europe.

Many careful observers believe that the recent rapid mill expansion is certain to be followed by conditions which will witness a great surplus of knitting machinery. It would seem that this belief is being shared by some few manufacturers as evidenced on a number of mills offered for sale, in sections where labor conditions are favorable, and no takers.

To say that the hosiery market is strong is only to repeat what every manufacturer and distributor knows. It is a unique situation. In the language of a leading Southern manufacturer, "There never has been anything like it—all the business and more than we can handle, more problems than have ever before confronted us and prices elastic."

"Why don't you manufacturers set prices more nearly conforming to advances that have been made in costs of production?" he was asked.

He replied: "We will never get away from fixed prices until the three-cent coin is restored. The 15 and 25 cent stocking of a year ago should be 18 and 28 cents today."

"Is it not true," he was asked, "that some retailers are getting 35 cents for a certain brand of hosiery that last year retailed usually at 25 cents?"

"That is true," he admitted, "and it simply goes to show that merchants can move prices up if they will. But advances such as you mention are almost criminal, and make it appear that the manufacturers are having abnormal profits. As I said, prices are chaotic, and it seems that about the only way to displace chaos with reason is to go after export trade and dump the surplus on domestic markets."

The shortage of hosiery is reflected in the unusual demand for stuff in the gray cotton and mercerized. Some of the New York agents have standing offers to take the undyed in quantity running into hundreds of thousands of dozens. With mills, generally, behind in deliveries, those looking for goods in the gray are reported making little headway. These offers, however, indicate that somewhere there are dyestuffs.

Besides the better offerings of sulphur black, manufacturers are viewing as encouraging the proposition of the National Aniline & Chemical Company for cancellations of its three year contracts upon notice on or before July 1, 1917, from either party. The willingness to attach such a rider to contracts is regarded generally as inspired by the belief that next year dyes will be more plentiful.

One of the tightest corners in hosiery is in low end stuff. Spinners have nothing to sell, and manufacturers of cheaper lines of hosiery would be chary about long time contracts for yarns. While there is nothing in sight to justify the fears of a surplus, there is going to be a let-up some day, and mills will aim to avert putting high-priced yarn into coarse hosiery for a receding market.

All agree that this money-mad American people is going to experience a jolt. War is a gamble.

## Among the Knitting Mills.

The Durham Hosiery Mills Co., Durham, N. C., has announced contemplated improvements to its plant in Durham aggregating in the neighborhood of $40,000. The new department will turn out 3,000 dozen pairs of hose daily. The company will also erect a new warehouse to cost about $15,000.

The contract for the erection of a branch of the Davis Hosiery Mill of Chattanooga, to be built at Bristol, Tenn., has been let, and work will begin at once on the new plant. It is to represent an initial investment of $200,000, and will later have a capacity of 2,000 pairs of men's hose daily. The buildings are to be completed and ready for occupancy by September 1st. The new industry will give employment to 500 girls.

It is reported that the Bluff City Hosiery Mills, Bluff City, Tenn., will rebuild their burned plant at an early date.

W. H. Heffner, Bolivia, N. C., is said to be interested in the establishment of a knit goods mill.

L. D. Tyson, President of the Knoxville (Tenn.) Cotton Mills, is reported to be promoting a knit goods mill. The name of the proposed mill is the Tennessee Mills, capital $100,000. They will remodel present buildings and install underwear knitting machinery.

The Merck-Hetrick Mfg. Co., of Gainesville, Ga., will shortly increase the capacity of the mill.

Floyd M. Murphy, general manager of the Chickamauga Knitting Mills, Chattanooga, Tenn., is said to be interested in the establishment of a knit underwear mill.

The High Point (N. C.) Hosiery Mills has begun work on a new addition to consist of one entirely new building and one large 3-story annex. The cost is to be somewhere in the neighborhood of $20,000 to $25,000.

The new hosiery mill being built at Jonesboro, Ga., will be known as the Jonesboro Mfg. Co., and will be capitalized at $30,000. A building is being erected and orders have been placed for 32 knitters, 7 ribbers and 5 loopers. More machinery will be added from time to time until an equipment of 100 knitters is secured. The product will be hose and half-hose to retail at 15 and 25 cents. This company will be in the market for yarns in numbers ranging from 14's to 60's. Will sell through agents and direct. T. W. Woodham is superintendent.

*Spinning Tape Specialists*

*Established 1898*

Makers of tape for all kinds of tape drives and all makes of machinery. Makers of listings, leaders and all kinds of mill tapes

*Write Us.*

**BARBER MANUFACTURING CO.**
**LOWELL, MASS.**

**Concerning That Roof**

**Cortright Metal Shingles Say *"No"* to Flying Sparks**

PROTECT your buildings against fire hazard by roofing it with CORTRIGHT METAL SHINGLES.
Fire can't burn them, like prepared roofings and wooden shingles.
They won't crack and fly off in the heat of a neighboring conflagration, like slate and tile.
And CORTRIGHT METAL SHINGLES give permanent protection.
Write for our booklet "Concerning That Roof."

**Cortright Metal Roofing Co., Philadelphia and Chicago**

# JOHN D. LEWIS

**Manufacturer of**

# Logwood Extracts & Hematine

## Providence, R. I.

**50% Better than ever from YOUR Standpoint**

**SEVERAL NEW FEATURES** have been added to the "1912" Cloth Cutting, Folding and Winding Machine which **add at least 50 per cent to its value to YOU.**

It will cut your cloth—fold the edges—roll it up and give you an exact measurement of every piece of cloth going through the machine.

It saves time, labor, machines and cloth.

YOU ONLY NEED ONE MACHINE where before it required two, and you get an extra strip from every bolt of cloth.

It cuts the corners of expense in every way and leads to **more and greater profits.**
THE ENORMOUS SAVINGS WILL INTEREST YOU.
Mail a card for complete information and prices.
When in need of special machinery, write us.

**J. A. FIRSCHING, 614 Broad St., Utica, N. Y., U. S. A., Dept. "C"**

**AMERICAN TEXTILE BANDING COMPANY**

(Incorporated)

**Hunting Park Ave. & Marshall Street**

Philadelphia, Pa.

**SPINDLE TAPES and BANDS**

**"GIVES MORE LIFE AND MORE BLOOM TO OUR GOODS"**

SOAPALITE

WILL DO THE SAME FOR YOU

MAY WE SEND YOU PARTICULARS?

The Electric Smelting & Aluminum Co.

**Sole LOCKPORT, N. Y. Mfrs.**

**Diamond FIBRE**

**ROVING CANS**
**MILL BASKETS**
**BARRELS BOXES**

Will neither dent nor break when subjected to hard usage. Stronger than wood, lighter than steel.

**Write for Bulletin 12.**

**DIAMOND STATE FIBRE CO.**

**Bridgeport, Pa. Elsmere, Del.**

**Branches in Principal Cities.**

**Southern Agents:—E. S. Myers, 905 4th National Bank Bldg., Atlanta, Ga.; Pearson & Ramsaur, Greenville, S. C.**

The Royal Hosiery Co., High Point, N. C., has been incorporated to establish and operate a hosiery mill. Paid-in capital stock is $5,400, and amount may be increased to $10000. J. W., T. A. and H. C. Kearns, all of High Point, are the incorporators.

Two additions will be built to the plant of the Piedmont Mills Company, at High Point, N. C., one 60x126 feet, four stories high, and the other 60x135 feet, three stories high. Equipment to increase the production of men's, women's and children's hosiery to about 2000 dozen per day will be installed and all of it has been ordered.

A three-story building, 200 by 60 feet, will be built by the Loudon Hosiery Mills, Loudon, Tenn., which were reported a while ago as contemplating a 5000-spindle yarn mill. The structure will cost $25,000.

Announcement is made that the Huntsville (Ala.) Knitting Mills Company will put on a night shift of operatives. Employment will be given a great number of people by the day and night sheedule. Recently this knitting mill has handled large quantities of orders for underwear for soldiers engaged in the European war.

Contracts have been awarded by the Hayes Knitting Company of Oswego, N. Y., for a factory, 120 by 52 feet. three stories high. Men's ribbed and flat underwear is made in the present plant.

The William Carter Company, manufacturer of men's and women's ribbed underwear, infants' full fashioned underwear, union suits, children's ribbed underwear, fancy knit goods, mittens, surgical elastic hosiery, etc., has acquired a building in Framingham, Mass., in which to start a plant. The Carter Company operates mills at Needham Heights and Springfield, and manufactures Carter's underwear.

Articles of incorporation have been filed by the Middlesex Knitting Company of Camillus, N. Y., which has a capital stock of $20,000 and plans to manufacture hosiery and underwear. The incorporators are Walter F. Keefer, Martin E. Corbett and William C. Jones. Mr. Keefer now operates a plant at Camillus on the manufacture of men's and children's ribbed underwear and sweater coats, under his own name, and Keefer & Maxwell are the proprietors of the Central Knitting Works of the same place, manufacturing gloves, mittens, toques and fancy knit goods.

Additional machinery has been installed by the Herbert Hosiery Mill, Philadelphia, Pa., practically doubling its output. The capacity now is 1000 dozen children's fancy hose per week.

The Vesta Underwear Company, Providence, R. I., has been organized to succeed the Vesta Knitting Mills. The plant of the concern manufactures women's and children's cotton, worsted, silk and merino underwear.

Charles Payne of the Wearbest Knitting Co., of Phildelphia, and John Given, of New York, are making arrangements to open a factory at North Wales, Pa, Mr. Payne's lease on his present location expires in September.

With six knitters and seven sewing machines, the Mackey Knitting Co., Reading, Pa., has started operations at 238-40 Walnut street on women's knit underwear.

The Norwich (N. Y.) Knitting Co. is to erect a fifth story to their present building owing to an increase in business.

The capital stock of B. Z. B. Knitting Company, of Rockford, Ill., has been increased from $280,000 to $600,000 recently. This company operates 1,000 knitting machines on manufacture of women's full-fashioned hosiery.

William F. Taubel, Inc., Millville, N. J., has awarded a contract for erection of a two-story, reinforced concrete hosiery mill, 150x159 feet, to cost $70,000.

---

The accompanying illustration shows the Standard cotton marking metal tag. This tag permanently marks a bale of cotton, as it cannot be torn off, it will not burn off and it thus enables a record to be kept of the bale from the gin until it reaches its final destination. It is highly recommended by insurance people, as it makes the adjustor's

work "plain sailing." It is intended to fasten around the bale tie at any place which happens to be convenient. The Dixie Seal and Stamp Co., Atlanta, Ga., are the sales agents for the Standard Tag Co., who manufacture this metal tag, and they will be glad to furnish full information to any interested inquirer concerning its advantages and use.

---

The Los Angeles (California) Times has recently issued an Imperial Valley edition containing many well written articles on irrigation, horticulture, agriculture, dairying, gardening, stock-raising, and other subjects. Of particular interest are the illustrated accounts of cotton raising which is being done in this wonderful section of Southern California.

---

"Traveling Water-Intake Screens" is the title of a recent circular sent out by the Link Belt Company of Chicago, Philadelphia and Indianapolis. This describes a modern necessity for large and small plants, and its use guarantees a uniform flow of water to the condensers that is free from drift-wood, vegetation and miscellaneous trash that frequently obstruct condenser intake pipes. This circular, which is known as 229-C, is for free distribution.

---

The following announcement is made by the Cassella Color Company, 182 Front Street, New York: "There is now operating at 120 Broadway, New York, an Ohio corporation entitled Republic Trading Company, and as this concern may be mistaken for the Republic Trading Corporation organized to facilitate imports of dyestuffs from Germany, notice is hereby given that the last named company has no office at 120 Broadway, and such goods as are brought in through the permit granted to it by the British Government will be distributed through the usual importing channels."

---

The Gateway of Electric Service" is the title of a new booklet just issued by Pass & Seymour, Inc., Solvay, N. Y. In it the reader will find a very interesting story of electricity traced from its generation to the lighting fixture in the home. It will be sent free on request to readers of COTTON.